

## Book Chapter

# Continuous Survey on Child Health and Cognition Regarding "Difficult-to-Raise" Preschool Children Assessed by Medical Checkups in Deprived Areas of the Philippines

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## Introduction

The Philippines has an extremely high total fertility rate and premature birth rate among Southeast Asian countries, and it is estimated that many children are difficult to raise, including handicapped and developmentally disabled children. However, there is no public pediatric health checkup system, and the current status of disabled children, especially among the poor, is unknown.

We have conducted our own planned child health checkups and demonstrated that parents and teachers in deprived areas in the Philippines have various concerns about "Difficult-to-Raise" preschool children, including children with physical disabilities and developmental disorders. These indicate that the provision of health checkups and education for parents and teachers of "Difficult-to-Raise" children are important to improve the detection of health problems and health promotion for children in deprived areas. Teachers as well as parents are faced with the problems of dealing with physically handicapped children and difficult to raise children, including children with developmental disorders, in the educational field. However, there have been no reports demonstrating differences between parents and teachers in the cognition of difficulty-to-raise children in the Philippines. Therefore, we examined the current status of the cognition of parents and teachers in terms of child-raising anxiety in the Philippines.

## Continuous Survey on Child Health Assessed by Medical Checkups in Deprived Areas of the Philippines

The major causes of child mortality are pneumonia, diarrhea and gastroenteritis of presumed infectious origin, and congenital anomalies [1], which are preventable, other than congenital anomalies. It has been reported that the proportion of children in the Philippines under age of five years who are moderately or severely underweight in 2011 is 20.7%, whereas that in Southeast Asia is 17.0% [2]. The nutritional status of Philippine

children is worse than that of other Southeast Asian countries. In addition, the number of health facilities and medical professionals in the Philippines are in shortage [3]. The provision of healthcare services are sometimes canceled because of deficiencies in the related budget [4]. These issues contribute to the poor health condition of Philippine children. It is obvious that the provision of regular medical checkups and education are necessary to promote their health. Although Philippine people can receive charged medical checkups for young children in some private hospitals, there is no periodical public medical checkups for young children [5]. In particular, the poor cannot receive medical checkups.

Therefore, we performed medical checkups to evaluate the current status of nutrition, child-rearing anxieties, and hygiene on child health, and to investigate the influence of poverty on health outcomes in a preschool learning center in Malabon city, the Philippines.

The checkups were conducted at the Abakadang Kayumanggi Community Development Foundation Preschool Learning Center (AKCDF), a preschool day care facility located near a neighborhood called Eat Riverside in Malabon City, Philippines. AKCDF was founded in 1988 by one private citizen, Flor Delisa Galang. At the time of its founding, the residents were living in poverty, their children were in poor nutritional and health conditions, and their right to education was not guaranteed. Medical cooperation with the AKCDF began in 1992, with annual checkups for children entering the school.

As a result of the medical checkup, although there were no significant associations between the average Kaup index and time trend, the ratio of obesity tended to increase, and the ratio of underweight children tended to be higher than those concerning obesity. Based on the 1998 and 2008 National Nutrition Survey, the ratio of overweight children under the age of five years increased from 0.4% in 1998 to 2.0% in 2008. The ratio of underweight children under five years old was 32.0% in 1998 and 26.2% in 2008 [6,7]. We infer from this that Philippine children are still suffering from poor nutrition.

As for abnormal findings, we observed skin disease, fever, otitis media, congenital adrenal hyperplasia, murmur, and asthma. We believe that this relates to the clinical effectiveness of medical checkups. According to the AKCDF, the poor cannot see a doctor because of their poverty, although we proposed them to take an examination for abnormal findings in a hospital. This remains still an issue to be resolved. Earwax plugs were observed in all years. We speculated that earwax plugs could contribute to child-rearing anxieties concerning hearing [8]. Using cotton swabs was the most common way to clean the ears in all years. We infer one plausible reason for earwax plugs is cotton swab use. The use of cotton swabs maybe associated with cerumen accumulation [9,10]. It is essential that health professionals teach the parents the correct method of cleaning ear wax. The ratio of students with caries tended to be higher than those of students without caries in all years. The National Oral Health Survey in the Philippines reported that 97.1% of 6 years-old with dental caries should be treated [11]. Although there are some differences in the age of the subjects, the rate of caries in AKCDF students tend to be better than those in the national data. Contrary to expectations, the ratio of students who answered “Yes” about tooth-brushing were high in all years. Poor methods of tooth-brushing may result in the discrepancies between the results for caries and those for tooth-brushing. Thus, it will be important to investigate the students’ mode of tooth brushing and to provide tooth-brushing instructions. This remains an issue for further research. It was demonstrated in this study that the parents had various child-rearing anxieties. It is important that our health professionals pay serious attention to such anxieties through medical checkups. There may be a possibility that the parents have excessive anxieties about child-rearing, and counseling by health professionals may relieve their concerns.

As for hygiene, there were some students who drank unboiled water, although not many. The Philippine tap water might be contaminated by *Escherichia Coli*, water storage tank for tap water are also contaminated [12]. Drinking unboiled water may be one of the causes of diarrhea, malnourishment, and underweight issues. It is essential to provide education and

knowledge about hygiene to the students through health checkups and to investigate medical history such as diarrhea which is one of leading causes of child mortality. These are the subjects of further study.

The next discussion deals with the influence of poverty on health outcomes. It was suggested that poor children are not well nourished. According to the AKCDF, some children were not given enough to eat, except at school, and they sometimes drowned their hunger with candy instead of food. It was thought that the constant swallowing of candy to satisfy hunger may be related to the high percentage of poor children with tooth caries.

It was a limitation of this study that it was conducted in a single facility in the Philippines. Of course, the data cannot be generalized to all facilities in the country. Future studies will be necessary to improve the efficacy of health checkups for the early detection of abnormalities and for general health promotion. Based on the results of this study, we have already started research work to investigate the effects of education on the use of cotton swabs and the correct method of tooth-brushing on health outcomes.

### **Differences in Cognition regarding "Difficult-to-Raise" Preschool Children between Parents and a Teacher in the Philippines**

The factors that produce “difficult-to-raise children” tend to appear when the children experience group life, such as at preschool. These include disposition, natural temperament, and whether or not the child has any mild developmental disorders [13]. Parents and teachers may face problems regarding the difficulty-to-raise children regardless of the causes. Childcare by parents and teachers may strongly influence the development of children for better or for worse. Thus, the cognition of parents and teachers regarding difficult-to-raise preschool children is important for the development of children.

Meanwhile, it has been reported that the total fertility rate of the Philippines is 3.0 [14], and the percentage of infants with a low birth weight is 20% [15]. These indicators are higher in the Philippines than in other Southeast Asian countries. It is well known that low-birth-weight infants are more likely to suffer health problems such as developmental disorders. Additionally, there is no support system such as checkups for the early detection of difficult-to-raise children in the Philippines [16]. Actually, we have demonstrated that parents in deprived areas of the Philippines felt various child-raising anxieties regarding their children's eyesight, hearing, speech, and growth through medical checkups that we had originally performed [17]. We defined child-raising anxiety as a state that some problems in child-raising such as anxiety, trouble, fatigue, and irritation have not resolved and built up in the article. However, there have been no reports demonstrating differences between parents and teachers in the cognition of difficulty-to-raise children in the Philippines. It is possible that the differences between parents and teachers in this respect may have a negative impact on child development.

Therefore, we examined the current status of the cognition of parents and teachers in terms of child-raising anxiety regarding such matters as eyesight, hearing, speech, growth and difficult-to-raise children in a preschool learning center in Malabon city in the Philippines, and compared the results between the parents and the teacher.

As a result, the percentages of children regarding whom the parents felt anxiety tended to be higher than the corresponding percentages for the teacher, and there were some differences in the details of the child-raising anxieties between the parents and the teacher. The percentages of children whom the parents felt to be difficult-to-raise (in terms of hyperactivity, inattention, or extremely unbalanced diet) were higher than the corresponding percentages for the teacher. The percentage of children whom the teacher who felt difficult-to-raise in terms of violence was higher than the corresponding percentage for the parents. It was suggested that the Kaup index, whether or not the child was the first child, and the place of delivery might affect the cognition of parents regarding whether or not they felt their child was difficult to raise.

It was demonstrated in this study that the parents and the teacher felt various child-raising anxieties, including regarding the child being difficult to raise. This suggests that the parents and teachers face problems regarding the difficult-to-raise children in the Philippines. The results of the cognition of child-raising anxiety between the parents and the teacher conflicted. The percentages of children regarding whom the parents felt child-raising anxiety tended to be higher than the corresponding percentages for the teacher. According to the teachers of AKCDF, they did not recognize that the parents felt various child-rearing anxieties, including regarding difficult-to-raise children. It is possible that the parents felt excessive anxieties about child-raising and confused inattention in their children with low vision, hearing loss or speech delay. It is essential that teachers recognize the cognition of the parents and provide consultation to parents who have child-raising anxiety. It is also necessary to provide educational assistance to teachers.

Interestingly, some parents felt child-raising anxiety regarding an extremely unbalanced diet, whereas the teacher did not child-raising anxiety regarding this issue. One possible explanation is that teachers do not have a chance to be aware of extremely unbalanced diets because the school does not provide meals but simply snacks to the children. Meanwhile, the teacher felt some children were difficult to raise in terms of the issue of violence, whereas no parents felt so. The results thus conflicted. According to the teacher at AKCDF, abused children exercise violence at preschool. It is known that being considered a difficult-to-raise child is one of the risk factors of child abuse [18]. It is important that both parents and teachers recognize the differences in their feelings of child-raising anxiety. These differences may result in secondary damage against children considered to be difficult to raise. Difficult-to-raise children have fewer opportunities to undergo medical and educational rehabilitation by health professionals compared to children with physical handicaps [19].

Three different factors were found to be related to child-raising anxiety among parents. One was physical growth, with parents suggesting that underweight and obese children are more likely

to have health problems. As for the association between child-raising anxiety of the parents and the child being the first child, the parents may feel excessive anxieties about child-raising due to lack of skills. A previous study revealed that lack of skill in child-raising was a factor causing some parents to feel their child was difficult to raise [20]. As for place of delivery, there is a possible explanation for this result. Lack of knowledge of proper medical treatment for delivery may contribute to the feeling of child-raising anxiety. We also investigated the relationship between possession of a maternity book, place of delivery, and poverty through a questionnaire. 76.7% of parents had a maternity record book and 20.8% of parents did not have one. As for the place of delivery, the ratio of parents who did not have a maternity record book who had a home delivery was higher. As for economic situation, the ratio of poor children who had a maternity record book tended to be lower than the others. According to these findings, we inferred that poverty is expected to correlate with homedelivery and not having a maternity record book. The Ministry of Health and Welfare of the Philippines introduced a maternity record book called the “Mother and Child Book” to improve the level of maternal and child health in 2005 [21], although these results led us to speculate that possession of the maternity record book has not yet become widespread among poor families in deprived areas of the Philippines. Encouraging use of the maternity record book would be an effective means of giving parents correct knowledge of child-raising.

Additional studies including more participants in various parts of the Philippines are necessary to make more definite conclusions. We have already started a study to provide education to parents and teachers. It is important to be aware of the types of risk factors related to child-raising anxieties in parents and to provide education for parents.

## Conclusions

In conclusion, the results of continuous survey on child health assessed by medical checkups indicate that the children in deprived areas in the Philippines suffer from problems with regards to nutritional condition, earwax plugs, caries, and

knowledge about hygiene. It also indicates that poverty could influence nutritional condition, caries, and knowledge about hygiene. There were some differences in the cognition of child-raising anxiety between the parents and the teacher. The percentages of children regarding whom the parents felt anxiety tended to be higher than the corresponding percentages for the teacher, and there were some differences in the details of the child-raising anxieties between the parents and the teacher. The Kaup index, whether or not the child was the first child, and the place of delivery might affect the cognition of parents regarding whether they felt their child was difficult to raise. These findings suggest that the provision of health checkups and information on child-raising anxiety and difficult-to-raise preschool children is an important way of improving the detection of health problems and health promotion among children, parents and teachers in deprived areas of the Philippines.

Future studies should assist in the education system, such as providing lectures and information using Facebook, which is a common social networking tool in the Philippines, not only regarding difficult-to-raise preschool children but also physically handicapped children. The increase in the range of applications for the education system would encourage the growth of knowledge of the parents and teachers regarding difficult-to-raise children.

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