

Ⅱ．研究成果の刊行に関する一覧表

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書籍

著者氏名	論文タイトル名	書籍全体の 編集者名	書 籍 名	出版社名	出版地	出版年	ページ
山縣然太郎	母子保健対策－ 健やか親子21と 次世代育成支援 対策推進法		図説 国民衛 生の動向2008	財 団 法 人 厚生統計協 会	東京	2008	56 -59

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山縣然太郎	視点「子と親に公衆衛生ができること」	公衆衛生	72 (2)	82-85	2008
山中龍宏	Injury Prevention (傷害予防) に取り組む －小児科医は何をすればよいのか－	小児内科	39	1006 -1015	2007
西田佳史、 本村陽一、 山中龍宏	子どもの傷害予防へのアプローチ－安全知 識循環型社会の構築に向けて－	小児内科	39	1016 -1023	2007
山中龍宏	思春期の事故による傷害	小児内科	39	1328 -1334	2007
山中龍宏	乳幼児の誤飲を予防する	社会薬学	26	39-48	2007
原田正平 加藤忠明	小児慢性特定疾患重症疾患	小児内科	40 (7)	1096- 1099	2008
Gu YH, Kato T, Harada S, Sato Y, Kakee N	Medical aid program for chronic pediatric diseases of specified categories in Japan: current status and future prospects	Pediatr Int	50 (3)	376 -87	2008
深水京子 荒木田美香 子	保育所における保護者への保健情報提供に 関する要因の検討	小 児 保 健 研究	67 (5)	738 -745	2008

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山中龍宏	子どもの溺水 浴槽とプールでの溺死を予防するために	小児科臨床	61 (8)	1579-1586	2008
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Ⅲ. 研究成果の刊行物・別刷



The effectiveness of early intervention and the factors related to child behavioural problems at age 2: A randomized controlled trial

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relationship;
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CBCL;
Home visit;
Maternal depression

Abstract

Background: The aim of this study was to assess the effectiveness of early home-based intervention as a community health service and evaluate the influence of both early maternal depression and mother–infant relationships on child behavioral problems at age 2 in a longitudinal setting.

Methods: A randomized controlled trial was conducted in this study. A total of 95 mother–infant pairs were assigned randomly to intervention (48) or control (47) groups. The intervention group received monthly specific home visits between the infant ages of 5 and 9 months while the control group received only routine center-based services. Maternal depression and the mother–infant relationship were assessed by medical checkups at the ages of 4 and 10 months. Child behavioral problems were assessed at age 2.

Results: The intervention had no significant impact on child behavioral problems. However, for mothers who had a disturbed relationship with their infants, the rate of improvement in the quality of the relationship was higher in the intervention group. Disturbed mother–infant relationships at 10 months and early maternal depression significantly increased the risk of high scores on the Child Behavior Checklist (CBCL).

Conclusions: These findings indicate that intervention is most likely to have a positive impact on the quality of mother–infant relationships in cases where the relationship is disturbed and that a disturbed mother–infant relationship and maternal depression during infancy are relevant to the future mental health of the child. To prevent difficulties in child functioning, more prolonged interventions focusing on disturbed mother–infant relationships may be required.

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1. Introduction

Behavioural problems in children are an important social, educational, and health issue. Data from several longitudinal studies suggests a remarkable continuity in childhood behavioural/emotional problems and psychopathology starting from infancy and toddlerhood [1–5]. For example, in a study conducted in Dunedin, antisocial behaviour at age 13 was predicted by externalizing behaviour exhibited at age 3 and behavioural problems at age 5 [6].

There is evidence that the caregiver environment during the first few years of life is particularly important for predicting externalizing disorders at school entry; this is consistent with both social learning and attachment models [7]. Maternal sensitivity in particular is a core aspect of an infant's early interactive experiences and his/her socio-emotional development [8] as well as communication with the mother [9]. Van den Boom [10] reported improvements in the quality of mother–infant interaction, infant exploration, and attachment following the implementation of a program to enhance maternal sensitive responsiveness among a group of mothers from low-income families. The abovementioned study provides support for the view that maternal sensitivity to the infant is a crucial factor in the development of secure attachment.

There has been a considerable volume of research on the effectiveness of interventions in solving problems in the mother–infant relationship in general [11–13]. Home-based interventions during the early years of an infant's life have shown promise in preventing child abuse and neglect, enhancing child development [14,15], and having a long-term positive impact on children's educational, behavioural, and psychiatric outcome [14,16]. Maternal mood and maternal mood disorders in the postpartum period have a significant influence on children's development and their long-term outcome [17,18]; this effect is probably mediated by a disturbance in the maternal–infant attachment relationship as a result of mood disorder in the mother.

After the Second World War, Japan strove to improve the physical aspect of maternal and infant care and established a nationwide prenatal and infant screening system that produced an infant mortality rate that was the lowest in the world as well as a compliance rate of more than 80% for infant checkups. However, the increasing incidence of child abuse, juvenile crimes (e.g., murder and robbery), eating disorders, and other emotional and behavioural problems among children prompted the government and public to reconsider the importance of the early intimate mother–infant relationship. The creation of a secure base for families to enjoy a nurturing companionship with their infants is now a common goal of infant mental health programs in Japan. In addition, although some studies have attempted to improve disturbed mother–infant relationships, there is currently insufficient conclusive evidence regarding the role of parenting programs in the primary prevention of mental health problems as a part of mother–infant health care-related community service in Japan.

As a pilot for a possible controlled intervention study, we conducted a preliminary study of early home-based intervention focusing on the mother–infant relationship in a community sample in Japan. The intervention was designed to improve the quality of the mother–infant relationship by

using a program to enhance maternal sensitive responsiveness toward infants. The aims of this study were as follows: (1) to assess the effectiveness of early home-based intervention in improving the mother–infant relationship, (2) to assess the role of early intervention in this relationship in the primary prevention of behavioural problems, and (3) to evaluate the influence of related factors including early maternal depression, the mother–infant relationship, and other characteristic factors on child behavioural problems at age 2 in a longitudinal setting.

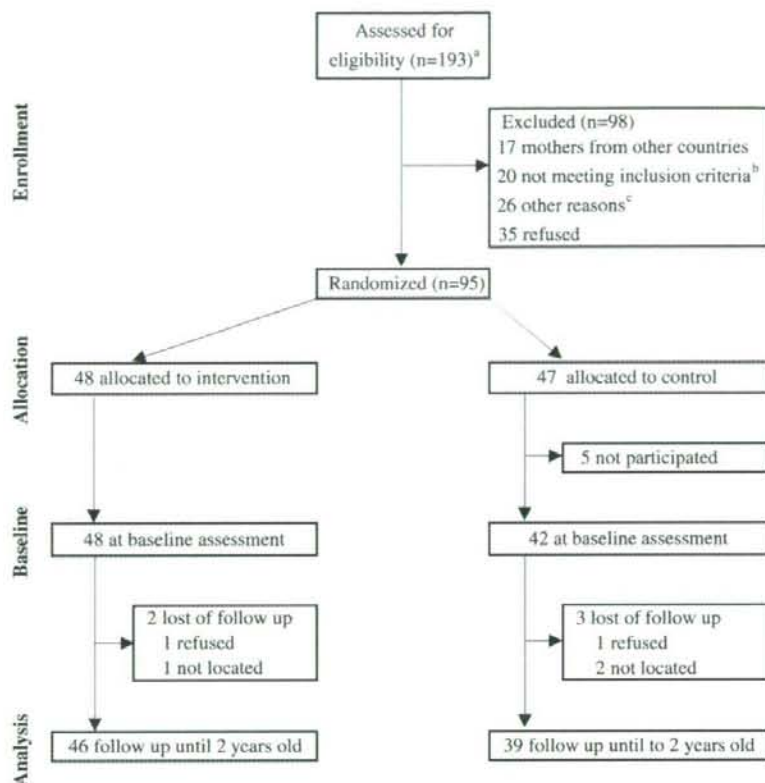
2. Methods

2.1. Subjects

This study was conducted in the Tatomi Health Care Center in Yamanashi Prefecture, Japan. Tatomi is a small town with a population of 16,866, and the number of live births per year is approximately 180. To ensure the implementation of the program, the sampling was conducted in three periods. Seventy-five mothers with infants born between June and September 2000 were selected in the first period; 62 mothers with infants born between April and July 2001, in the second period; and 56 mothers with infants born between February and May 2002, in the third period. Among these pairs, mothers of other nationalities, those who planned to move out of the region, or those who could not be contacted were excluded. Since we targeted the general population, we also excluded infants who did not meet the inclusion criteria due to low birth weight, premature delivery, or congenital abnormalities. We obtained the informed consent of 130 mothers for participation in this study and excluded those who refused to consent (35). A total of 95 mother–infant pairs were recruited to participate in the baseline assessment, and they were randomly assigned to an intervention group (48 pairs) or a control group (47 pairs). A random number table was computer generated and used to determine the intervention status; this was performed by a clerical officer who was not involved in determining eligibility. However, among the mothers in the control group, five did not participate in the baseline assessment and three were dropped out the follow-up, while only two mothers from the intervention group dropped out. Thus, 85 pairs were followed until the infant reached 2 years old (Fig. 1). Most of the mothers (95%) had completed high school, and most families (99%) were two-parent families. More than half of the incomes (58%) were at or over 4 million Japanese yen per year. The mean age of the mothers was 30 ± 4.4 years (range 17–45) at the baseline of the study.

2.2. Procedures

Mothers in both the intervention and control groups completed questionnaires on the Center for Epidemiologic Studies Depression Scale (CES-D) and demographic characteristics by using a self-report at the time of the infant medical checkup at 4 months. Further, the infants and their mothers were observed for 10 min while playing with a standard set of toys in a laboratory playroom at the health-care center. This free play was videotaped, and the video recording was used to assess the mother–infant relationship



^a Infants were born during from Jun to September 2000 (n=75), from March to July 2001(n=62) and from February to may 2003 (n=56).

^b Low birth weight, premature delivery and congenital abnormalities.

^c Not able to contact or planned to move out.

Figure 1 Flow of the participants through each stage of the randomized trial.

using the Parent–Infant Relationship Global Assessment Scale (PIRGAS). Based on this assessment, we then determined a plan of intervention for the first home visit. After five home visits, at the time of the infant medical checkup at 10 months, the observation of mother–infant free play and the investigation of maternal depression were repeated at the health-care center in the same manner as in the baseline assessment. When the children reached the age of 2, the mothers completed the Child Behavioural Checklist (CBCL) for the assessment of child behavioural problems.

2.3. Intervention

The control group received standard center-based service that included the provision of education regarding parenting, infant nutrition, development, physical health, and other services in conjunction with infant medical checkups. In addition, psychological counseling was made available in the town, thereby allowing the mothers to respond positively to the various difficulties of parenting. The intervention group received these standard center-based services as well as

monthly specific home visitation by a public health-nurse for a period of 5 months; this was designed to enhance the affective interaction between mother and infant. Five home visits, each extending for a period of at least 1 h, were conducted while the infant was between 5 and 9 months old. The nurses were all female and each nurse visited eight families. The nurses received special training regarding the provision of support to the mothers aimed at improving the quality of mother–infant relationships. They tailored their home visits to suit the individual needs of the families. Their main activities were to provide appropriate support for the problems in mother–infant interaction that influence the functioning of mother–infant relationships. The aim of this visitation was to promote maternal feelings of competence in infant caretaking as well as to improve maternal sensitivity and the quality of mother–infant interactions through modeling or positive feedback. To accomplish these goals, assessment meetings to determine home visit guidelines were conducted by psychiatrists and a clinical psychologist before each home visit. The intervention procedure during the home visits can be described as

Table 1 Comparison of the baseline characteristics between the two groups

Characteristics	Intervention	Control	p^a
	($n=46$)	($n=39$)	
	n (%)	n (%)	
Maternal age (≥ 30 years) ^b	20(43.5)	16 (41.0)	0.497
Maternal Education (\geq high school)	44 (95.7)	36 (92.3)	0.421
Birth order (first-born child)	25 (52.2)	18 (43.9)	0.385
Household income (<4 million yen/year)	19 (40.4)	18 (43.9)	0.742
Male child	22(47.9)	18 (56.4)	0.555
Mothers with history of childhood maltreatment	5 (10.8)	4 (10.3)	0.981
Maternal depression (CES-D score ≥ 16)	4 (8.7)	4 (10.3)	0.369
Disturbed relationship	19 (41.3)	18 (46.2)	0.844

^a Chi-square or Fisher's exact probability test.

^b Mean age of mothers.

follows. First, to observe the interactions between the mother and infant at home, the mothers were asked to play freely with their infants for 10 min. The points observed were the following. (1) For the infants: cues (engagement or disengagement cues), laughter, movement, interest, eye contact, response to the mother, exploratory behaviour, stranger wariness, emotion sharing, social reference, and reciprocal play. (2) For the mothers: the ability to ensure the safety of the infant, interest in the infant, sensitivity, stimulation, encouragement, talking, and intrusion. Second, information regarding the mothers' childcare behaviour (feeding, playing, bathing, and changing of clothes; and behaviour pertaining to the infants' excreting, sleeping, and crying) was obtained through interviews with and self-reports by the mothers. Finally, encouragement in the form of praise for the positive aspects of mother-infant interaction and professional suggestions were given to those who appeared to be maladjusted; this was done in accordance with the predetermined intervention guidelines. The nurses maintained detailed records and provided information about the situation of each family for each home visit under supervision at assessment meetings.

2.4. Measures

The observations of the mother-infant relationship that were made in the playroom at 4 and 10 months of infant age were videotaped. All the interactions took place during the afternoon, after it was ascertained that the infants were not hungry. The mothers were asked to diaper and play with their children exactly as they would usually do at home. During the recordings, the camera was directed mainly toward the faces of the mother and infant. Each video recording lasted 10 min. The PIRGAS [19] was used to assess the quality of the mother-infant relationship adaptation. A child psychophysiology expert who was unaware of group assignment and other particulars reviewed the videotapes of the free play

sessions and rated the overall level of relationship adaptation by using the PIRGAS. Another expert reviewed the videos to assess the inter-rater reliability; Cohen's κ for the assessment of the relationship adaptation was 0.53. The PIRGAS scale is a continuously distributed scale of parent-infant relationship functioning and ranges from 90 (well-adapted) to 10 (dangerously impaired). Nine anchored points define differing levels of relationship adaptation. According to classification by this scale, the mother-infant relationship adaptation shows no evidence of significant psychopathology when the PIRGAS score is 80 points or more; on the other hand, a score of less than 80 points indicates that the relationship is functioning in a less than optimal or slightly maladapted manner. Therefore, we defined the group that scored 80 points or more as an adapted group and the group that scored less than 80 points as a disturbed group. The reliability and validity of this method for the prediction of child behavioural problems has been reported [20–22].

Maternal depression was assessed using the Japanese version of the CES-D [23]. The questionnaire was administered to mothers when their infants were 4 and 10 months old. A cut-off of 16 points or more was used to distinguish between depressed and non-depressed individuals. The validity and reliability of this measurement has been previously demonstrated [23].

We evaluated the internalizing, externalizing, and total scores of the children's behavioural problems at age 2 by using the Japanese version of the CBCL [24,25] for ages 2–3 (CBCL/2-3), which was completed by the mothers. The Japanese CBCL/2-3 comprises 100 symptoms rated by the mothers and has three rankings based on their judgment: 0 (not true), 1 (somewhat true), and 2 (very or often true). The checklist determines scales for total behavioural problems and composite internalizing and externalizing behavioural problems. The internalizing behavioural problems covered in the Japanese CBCL/2-3 are withdrawn behaviour, separation anxiety, and anxious/neurotic domains; the externalizing behavioural problems cover oppositional, aggressive/destructive, and attention domains. The domains of development and sleep/eating belong to neither internalizing nor externalizing behavioural problems. The raw scores on each scale and domain can be converted into T scores that are based on normative data. The internal consistency and test-retest reliability of these subscales of T are standardized as the Japanese CBCL/2-3, which was previously validated by Nakata et al. [25].

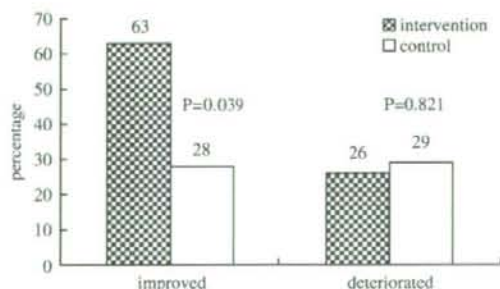


Figure 2 Percentage of "improved" and "deteriorated" quality of mother-infant relationship adaptation at 10 months old.

Table 2 Comparison of CBCL scores between categories of independent variables

Variable	n	Mean (SD)		
		Total problems	Internalizing problems	Externalizing problems
Educational level of mother				
≤ High school	41	27.0 ± 13.8	5.2 ± 3.9	16.2 ± 7.9
> High school	44	25.8 ± 13.7	5.6 ± 4.4	14.6 ± 8.5
Maternal age				
< 30 years	49	26.7 ± 15.5	5.9 ± 4.7	15.6 ± 9.2
≥ 30 years	36	26.0 ± 10.9	4.8 ± 3.3	15.1 ± 6.7
Family income per year (tens of thousands of yen)				
< 400	36	26.5 ± 15.5	5.4 ± 4.6	15.7 ± 9.1
≥ 400	49	26.3 ± 12.3	5.5 ± 3.9	15.1 ± 7.5
Birth order of the infant				
First	42	28.1 ± 14.5*	6.2 ± 4.4	15.8 ± 8.3
Other	43	24.7 ± 12.7	4.7 ± 3.9	14.9 ± 8.1
Infant's sex				
Female	45	28.4 ± 14.4*	5.8 ± 4.3	16.1 ± 8.5
Male	40	24.1 ± 12.5	5.0 ± 4.0	14.6 ± 7.8
Mothers with history of childhood maltreatment				
Yes	9	30.6 ± 14.1*	5.6 ± 4.4	18.9 ± 9.4*
No	76	25.9 ± 13.6	5.4 ± 4.2	15.0 ± 8.0
Maternal depression at 4 months				
Depression	8	35.6 ± 19.3**	8.0 ± 5.4**	19.8 ± 12.2*
Non-depression	77	25.4 ± 12.7	5.2 ± 3.9	14.9 ± 7.6
Maternal depression at 10 months				
Depression	9	31.7 ± 19.2*	7.1 ± 6.0	17.9 ± 12.3
Non-depression	76	25.8 ± 12.9	5.2 ± 4.0	15.1 ± 7.6
PIRGAS score at 4 months				
Disturbed relationship	37	25.7 ± 13.9	5.4 ± 3.9	15.1 ± 8.9
Adapted relationship	48	26.9 ± 13.5	5.5 ± 4.5	15.6 ± 7.6
PIRGAS score at 10 months				
Disturbed relationship	33	28.6 ± 14.2*	6.2 ± 4.1*	16.7 ± 8.9*
Adapted relationship	52	24.9 ± 13.2	4.9 ± 4.2	14.5 ± 13.0
Intervention				
Intervention	46	24.9 ± 11.8	5.6 ± 4.4	14.2 ± 7.0
Control	39	27.6 ± 15.1	5.2 ± 3.9	16.4 ± 8.9

*** $p < 0.0001$; ** $p < 0.001$; * $p < 0.05$. Analyses were performed with Mann-Whitney tests.

The baseline information provided by the mothers' self-reports included characteristics such as maternal age, maternal educational level, family income, family structure, maternal employment, and maternal history of childhood maltreatment, child sex, and child birth order.

3. Statistics

The chi-square and Fisher's exact tests were used to compare the demographic characteristics of the intervention group with those of the control group at the baseline as well as the improvement rates in the mother-infant relationship adaptation in the two groups. The differences in the CBCL scores for the categorical variables were tested by using the Mann-Whitney test in the appropriate manner.

Multiple logistic regression analyses were used to examine the association between behavioural problems in 2-year-old children and early intervention, the early mother-infant relationship, maternal depression, and a maternal history of childhood maltreatment. Odds ratios (OR) and 95% con-

fidence intervals (95% CI) were calculated. A p value of less than 0.05 was interpreted as significant. The baseline variables of maternal age, maternal education, and household income, birth order of the infant and infant sex were entered into the regression model as covariates. All analyses in this study were performed using the Statistical Analysis System, Version 9.0 (SAS Institute Inc., Cary, NC, USA).

4. Results

At the two-year follow-up, 85 mother-infant pairs (46 in the intervention group, 39 in the control group) were available for statistical analysis. Ten (nearly 9%) of the mother-infant pairs dropped out in this follow-up study (Fig. 1). In the intervention group, among the 48 pairs at allocation, 46 pairs were followed up, and the retention was 96%. In the control group, among the 47 pairs that at allocation, 36 could be followed until 2 years of age, with retention rate of about 77%. The pairs that did and did not complete the follow-up had similar demographic characteristics.

4.1. Baseline characteristics of the two groups

The demographic characteristics of the 46 mother–infant pairs who received the full intervention as well as those of the 39 control pairs are presented in Table 1. There was no significant difference between the intervention group and the control group in any variables. There were eight mothers with a CES-D score of 16 or more, and among them, two were being treated.

4.2. Intervention effects on mother–infant relationship

Although the mother–infant relationship variable was measured on a continuous scale (PIRGAS), for descriptive purposes, we categorized our data into two relationship groups: a well-adapted group (PIRGAS score 80 or more) and a disturbed group (PIRGAS score under 80). Based on this categorization, it was observed that for the relationship group that had been disturbed relationship (37 pairs) at the baseline, the ratio of improvement (the number of pairs that entered the adapted group after receiving health-care services) was higher in the intervention group (63%, 12 pairs) than in the controlled group (28%, 5 pairs) (Fig. 2). However, in the adapted relationship group (48 pairs) at the baseline, the ratio of relationship deterioration (the number of pairs whose relationship was disturbed after they received health-care services) showed no significant difference between the intervention group (26%, 7 pairs) and the controlled group (29%, 8 pairs).

4.3. Scores on the CBCL at age 2

The respective means of the raw scores with the standard deviations (SD) were 5.4 ± 13.7 for the internalizing, 15.4 ± 8.2 for the externalizing, and 26.6 ± 13.7 for the total problem scores. According to the definition provided by the standards of the Japanese CBCL/2-3 (T scores > 64), none of the children had internalizing symptoms, three had externalizing symptoms, and two had total problems. Since there was only a small number of children whose CBCL scores were above the standard cut-off point and to facilitate analysis, the logistic regression of the raw scores were categorized by

the 75th percentile in this study. According to this definition, 28 children had internalizing symptoms and 22 had externalizing symptoms, while 23 were symptomatic on the total problem scale.

The mean CBCL scores and SD for each independent variable are presented in Table 2. The scores of infants whose mothers had a history of childhood maltreatment were significantly higher than those of infants whose mothers had no such history. The total problem scores among the girls and first-born infants were significantly higher than those among the boys and infants born later in their birth order. Maternal depression at 4 months of infant age and a disturbed mother–infant relationship at 10 months of infant age were significantly related to higher internalizing, externalizing, and total behaviour problem scores. Maternal depression when the infants were 10 months old was related only to high total problem scores. However, no significant differences were found in any CBCL raw scores between the intervention and control groups. There were no differences in the behaviour problem scores between the categories of mother–infant relationships at the age of 4 months or between different maternal ages, maternal educational levels, and family incomes.

4.4. The factors related to child behavioural problems

Table 3 shows the associations between intervention, early maternal depression, the mother–infant relationship adaptation, a maternal history of childhood maltreatment, and high problem scores. The cut-off point for the internalizing, externalizing, and total problem scores acting as dependent variables was in the upper quartile. After adjustments for potential confounders including intervention, a maternal history of childhood maltreatment, infant sex, and birth order, it was observed that maternal depression at 4 and 10 months of infant age significantly increased the risk of high total problem scores (OR=5.2, 95% CI: 1.02, 26.6; and OR=3.4, 95% CI: 1.00–15.9). Maternal depression at 4 months also increased the risk of high internalizing problem scores (OR=10.0, 95% CI: 1.81, 63.7). However, maternal depression at either infant age was not significantly related to high externalizing problem scores. A disturbed mother–infant relationship at 10 months significantly increased the risk of

Table 3 Impact of risk factors on high^a internalizing, externalizing and total problem scores, as derived by multiple logistic regression models

Variable	Internalizing problems		Externalizing problems		Total problems	
	OR	95% CI	OR	95% CI	OR	95% CI
Mother with history of childhood maltreatment ^b	0.5	0.10–2.80	2.6	0.62–10.6	3.3	0.80–14.2
Maternal depression at 4 months ^c	10.0	1.81–63.7	3.5	0.78–18.4	5.2	1.02–26.6
Maternal depression at 10 months ^c	2.6	0.55–10.5	2.7	0.58–12.1	3.4	1.00–15.9
Disturbed relationship at 4 months ^c	1.0	0.39–2.68	1.1	0.39–3.16	1.2	0.36–3.73
Disturbed relationship at 10 months ^c	3.0	1.06–8.61	5.7	1.72–18.8	4.4	1.27–14.9
Intervention ^d	0.6	0.23–1.68	0.5	0.19–1.54	0.4	0.12–1.43

^a Scores over 75th percentile.

^b Adjusted for birth order of infant, infant's sex and intervention.

^c Adjusted for infant birth order and sex, maternal history of childhood maltreatment and intervention.

^d Adjusted for infant birth order and sex, maternal history of childhood maltreatment and maternal depression at baseline.

high total, internalizing, and externalizing problem scores (OR=4.4, 3.0, and 5.7, respectively). However, a disturbed mother–infant relationship at 4 months was not associated with higher behavioural problem scores. Compared with infants whose mothers had no history of childhood maltreatment, those whose mothers did have such a history tended to be at a greater risk of high total problem scores (OR=3.3), although the 95% confidence interval was included 1 (0.80–14.2). Intervention was not significantly related to high scores on the CBCL after adjustments were made for potential confounders including a history of maternal childhood maltreatment, infant sex and birth order, maternal depression, and the quality of the mother–infant relationship at the baseline.

5. Discussion

In this study, we examined the effectiveness of home-based intervention focusing on the mother–infant relationship during infancy, and we evaluated the influence of related factors including early maternal depression, the mother–infant relationship, and a maternal history of childhood maltreatment on behavioural problems at age 2. In agreement with previous research, we found that early home-based intervention was very likely to have positive effects on the quality of the mother–infant relationship. Disturbances in the mother–infant relationship at 10 months of infant age and early maternal depression increased the risk of behavioural problems at age 2. In addition, the children of women with a history of depression during the early infancy of their children exhibited higher levels of behavioural problems as compared with children of women without a history of depression.

Van den Boom [10] reported improvements in the quality of mother–infant interaction, infant exploration, and attachment after the implementation of a program for enhancing maternal sensitive responsiveness among a group of mothers from low-income families. Wendland-Carro et al. [26] have reported that mothers in the enhancement group displayed a greater sensitivity to their infant's signals and may have thereby influenced the infant's general state of arousal and responsiveness to the environment. The above-mentioned study provides support for the view that maternal sensitivity to the infant is a crucial factor in the development of secure attachment. With regard to the mother–infant relationship, the present study showed that intervention was beneficial to those in the disturbed relationship group (PIRGAS < 80 at the baseline). At 10 months of infant age, mothers who had a disturbed relationship with their infant and received intervention showed a 35% higher rate of change to an adapted relationship than those who did not receive intervention ($p=0.039$). This finding is in agreement with Nugent's finding that an increasing parental awareness of the infant's competencies can enhance parent–infant interaction [27]; this observation is also relevant when assessing the impact of a home-based professional visiting program for vulnerable families [28]. Bakermans-Kranenburg et al. evaluated the effectiveness of various types of interventions for enhancing maternal sensitivity and infant attachment security by using meta-analyses, and their results revealed that interventions focusing on maternal sensitivity appear to be the most effective not only in enhancing ma-

ternal sensitivity but also in promoting children's attachment security. In particular, such interventions appear rather successful in improving insensitive parenting [29]. In the present study, the intervention had a greater impact on the group with disturbed mother–infant relationships as compared with the group with adapted relationships. These results provide evidence that home visit intervention during the first few months of an infant's life may improve mother–infant relationship adaptation, particularly in the case of deeply disturbed mother–infant relationships.

With regard to child behavioural problems at age 2, the intervention group received no significant benefits as compared with the control group; this was contrary to our expectations. It is possible that there is a considerable amount of normative opposition among toddlers in this age group. Therefore, it is more difficult to discern the impact of interventions on the behavioural problems of toddlers in this age group as compared with higher age groups, in which children with more enduring problems are likely to be conspicuous. A long-term follow-up will be necessary to measure the impact of this approach on the behavioural problems of such children.

In the logistic regression analysis, after making adjustments for potential confounding factors, a disturbed mother–infant relationship at 10 months of infant age continued to be significantly related to higher scores for behavioural problems at age 2, particularly externalizing problems. Zahn-Waxler et al. reported that a mother's early caretaking behaviours predicted child externalizing problems at age 5. Our findings were consistent with those of previous studies that clearly determined that the quality of the early mother–infant relationship is associated with child behavioural problems and that this effect is independent of biological factors and maternal education [4,30,31]. However, we must highlight another finding, namely, that in our study, the mother–infant relationship at 4 months of infant age was not related to later child behavioural problems. There are two possible explanations for this result. First, it is very likely that some PIRGAS scores at 4 months do not reflect the true mother–infant relationship since most mothers will strive to portray a good relationship during the video recordings and the PIRGAS cannot detect such feigned behaviour. Second, the mother–infant relationships may have changed due to the intervention.

Maternal depression at 4 and 10 months of infant age was associated with high total problem scores, particularly in the case of maternal depression at 4 months. Moreover, maternal depression at 4 months also increased the risk of high internalizing problem scores. Dawson et al. [32] have found that at 3 1/2 years of age, the children of mothers who were depressed during the early infancy of their children exhibited higher levels of internalizing and total behavioural problems and reduced generalized brain activation as measured by an EEG. The results of their study also suggest that the relation between maternal depression and child behavioural problems may be indirect on account of its association with reduced frontal brain activation and increased contextual risk factors such as marital discord and life stress. Our findings are consistent with previous research that demonstrated that infants of depressed parents are at an increased risk of behavioural problems and emotional difficulties [33,34].

Children whose mothers had a history of childhood maltreatment had a higher risk of child behavioural problems as compared with children whose mothers had no such history. Theoretically, the mother's relationship history is particularly relevant to the development of the infant's attachment to the mother because this attachment is affected by the mother's representation of her own early attachment relationships; this representation is a strong predictor of infant attachment quality [11,35,36]. Our findings suggest that a maternal history of childhood maltreatment might influence child behavioural problems by complicating the mother–infant relationship.

In our study, compared to other children, behavioural problem scores tended to be higher in first-born children. This could be partly explained by the fact that, when having their first child, parents tend to be anxious and overly concerned about this child, as suggested by Eisenman [37]. A study conducted by Aronen [38], suggested that having siblings may be a mental health promoting factor, possibly by offering a child an opportunity to develop his or her social problem solving skills and abilities to get along with other children. However, we have not considered the number of children in the statistical analysis. This is one of the limitations of our study.

The potential association of demographic characteristics such as the maternal educational level and family income with infant behavioural problems has been frequently studied, with inconsistent results. In our study, the maternal education level and family income at the baseline were not associated with the behavioural problem scores. These results may reflect the generally high educational level of most of the mothers and the small range of family incomes in this sample.

Several potential limitations should be taken into account while interpreting these results. First, a number of issues concerning the assessment of the quality of the mother–infant relationship should be considered. We assessed the mother–infant relationship using the PIRGAS, which is a comprehensive assessment method. However, it is very likely that some PIRGAS scores at 4 months do not reflect the actual mother–infant relationship since most mothers will strive to portray a good relationship during the video recordings, and the PIRGAS cannot detect such feigned behaviour. Thus, for 4-month old infants, the use of the PIRGAS alone to assess the quality of mother–infant adaptation might be inadequate, and non-differential misclassification might occur.

This study was a randomized controlled trial, but the statistical power was low because the sample size was too small. Consequently, the results are tentative. In small samples where the phenomena under consideration are infrequent, the effect of chance increases; however, there is a greater likelihood that a true association will fail to emerge as significant. Thus, unexpected findings of a lack of association, such as the finding that a history of maternal childhood maltreatment was not related to higher problem scores of the child, should not be understood as indicative of an actual lack of association. On the other hand, the confidence intervals for the odds ratio were quite large, reflecting the small sample size.

Previous studies have provided evidence that other variables may be considered risk factors for the child's outcome, e.g. child's temperament [39], the role of fathers [40],

and extended family [41]. Unfortunately, we were unable to obtain information regarding these in this study. These factors may influence the results of this study on mother–infant relationships and childhood behaviour.

In addition, the external validity of the generalization of the results of this study has to be pointed out. As reported in many studies, unacceptable rates of refusal (30%) threaten the external validity of the generalization of results. Unfortunately, it is most likely that individuals with the greatest need were the ones who declined to participate in the study [12]. Furthermore, this was a locality-based study, and the results may differ slightly among localities.

Despite these limitations, this study can be considered to be internally valid. The attrition rate in follow-up studies of this type has usually been high, with only 50% or less of the initial study group participating in the follow-up [12]. This high attrition rate has hampered the interpretation of the results of such studies. In the present study, we secured a retention of almost 91%, and since it was a randomized control trial, the research is internally valid. Additionally, since the validity and reliability of scales such as the CES-D, PIRGAS, and CBCL/2-3 were already proven, this research has a high comparability with other studies. Further, our study is the first to evaluate the effectiveness of preventive intervention focusing on the mother–infant relationship in infancy with the aim of reducing child behavioural problems in Japan. Since the study focuses on the general population of a community, if the effectiveness of early intervention by home visits is recognized, such intervention could be included as a part of routine infant medical examinations.

The findings of this study have several implications. First, they indicate that intervention during early infancy is more likely to have a positive impact on the quality of the mother–infant relationship adaptation for individuals with a disturbed relationship rather than for those with an adapted relationship. However, this may not be accepted as a protective effect for behavioural problems at 2 years of age. Second, there is evidence that the quality of the mother–infant relationship and the incidence of maternal depression during infancy are relevant to the future mental health of the child. Third, the preliminary evidence in this study shows that in order to prevent difficulties in child functioning, more prolonged interventions focusing on groups with a deeply disturbed mother–infant relationship may be required.

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子と親に公衆衛生ができること

山縣 然太郎

子どもが生まれたい場所

「天国の特別な子ども(Edna Massimilla 作、大江祐子訳)」という次のような詩がある。ダウン症児の母親である作家が書いたものである。会話が聞かれました。地球からはるか遠くで。[「また次の赤ちゃんの産生の時間ですよ」]

天においてになる神さまに向かって天使たちは言いました。

「この子は特別の赤ちゃんで、たくさんの愛情が必要ですよ。(中略)」

ですからわたしたちならば、この子がどこに生まれるか。

注意深く運ばなければならぬのです。この子の生涯が幸せなものとなるように、どうぞ神さま、この子ののために素晴らしい両親を捜して上げてください。

(中略)

やがて二人は、自分たちに与えられた特別の神の思し召しを悟るようになるでしょう。

神からおくられたこの子を育てることによって、柔和で穏やかなこととおとしい授かりものこそ、

天から授かった特別な子どもなのです。

この詩の「両親」を「社会」に置き換えると、今の日本は子どもが生まれたくない社会なのだと指摘されているようである。母子保健にかかわる者の一人として、自費の念に駆られるが、子どもが健やかに育つ社会の実現のために、子どもと親に公衆衛生ができることを考えてみたい。

「育てたい」を支援する

少子化に危機感が生まれたのは平成元年の1.57ショックで、合計特殊出生率が1966年の四年に1.58を下回った時からである。それから20年になりとうとするが、少子化に歯止めはかからない。

2007年に「子どもと家族を応援する日本」重点戦略検討会議が発足するなど、国はこの問題に本腰を入れ取り組んでいる。しかし、少子化対策の必要性を社会制度や経済活動の担い手の不足といった国家存亡の問題として考えたくはない。子どものいる生活を選択するか否かはあくまでも個人の価値観の問題であり、それが尊重される国民でありたい。

2005年の出生動向基本調査によると、予定子ども数が理想の子どもの数を下回っており、その理由の上位5つは「子育てや教育にお金がかかりすぎる」、「高年齢である」、「育児の心理的・肉体的負担に耐えられない」、「自分の仕事に差し支える」、「健康上の理由から」である。つまり、わが

国の少子化は価値観の問題だけでなく、社会問題、健康問題であり、そのために対策を講じる必要があるのである。この視点からわが国が抱える重要課題として、公衆衛生ができることについて5つの提言をした。

公衆衛生ができること—5つの提言

1. 子どもの声をきこむ

昨年の10月1日に東京都八王子支部は東京

都東京市の「こいの森公園」から出る騒音が都の騒音規制基準の50デシベルを超えた約60デシベルであることを理由に、騒音の差し止めを認めぬ行政決定を出した。それを受けて、市民は公園の噴水を止め、スケートボードを禁止した。裁判所が子どもの声を騒音であると認定したことになる。他にも全国で、運動会の練習、学校の週末の校庭開放での子どもの声、幼稚園の園児の声に対する苦情等、行政に寄せられる子どもの声に対する苦情は少なくないという。

訴えた住民には静かな暮らしをすすめる権利がある。しかし、子どもが生きていきと喜び、学ぶ声や他の音響と同じように音響だけで騒音と感じる感性を悲しく思う。電車の中で泣いている乳児に対してサラーマンが「うるさい」と声を飛ばしてしまふ社会に、いつか日本はなくなったのだろうか。子どもがいる家はうるさい。子どもの声だけでなく大人の声も大きくなる。子どもを育てるとはそういうことである。

子どもがすくすく育つ社会も子どもの声でできやかなはすであり、これを温かく楽しめる心の余裕と豊かさのある社会にしなければならぬ。この当たり前前のことを社会が見失っているならば、それを回復するために、社会が子どもを育てることの大切さを啓発し、大人が社会での子育ての役割を持つことによって、子どもと触れあう機会を増やし、それを実感する方が必要である。

2. 日本の子どもの親のために必要な根拠を作り出す

根拠に基づく医療(EBM)。根拠に基づき健康政策が言われて久しいが、残念ながらわが国の母

山縣然太郎、1956年生まれ、山口県出身。1988年山梨県立大学卒業。臨床検査技師、保健師、公衆衛生(国社会政策学)で教育研究に従事。1991年に文部省の特別奨励金として米国ワシントン大学アーバイン校の大学院に入学。帰国後は奈良県立医科大学で教育研究に従事。母子健康を中心とした保健政策を多数発表。山梨県川崎市(旧山梨市)の母子保健課長を務めた。20年経った。また、子どもの科学や生活環境の保健、先端科学と社会との関わりがテーマ。現在は、既婚に嫁り住居に転居する住むこと。海外のコンセリングはライフワーク。



子保健領域では、疫学研究成果として得られた根拠に乏しい。育児現場が悪く、乳幼児の死亡率が高かった時代には、経験や理論で企画された事業がかなり成果を上げてきた。しかし、思春期の健康問題や虐待のように、問題が複雑化し、多様なニーズに応えなければならないとなると、科学的根拠に基づいた事業の必要性がこれまで以上に増してくる。その際、海外でのエビデンスでは、海外と文化や価値観の異なる日本の親子に、本当に必要な科学的な支援はできない。一方で、わが国の母子保健は母子健康手帳や乳幼児健診に代表されるような、世界に誇れる支援体制を構築している。ここで得られる情報を活用することで、日本の子育てに必要な貴重な成果を得ることができるとは思っている。

私たちは山梨県内で20年間にわたって、妊娠届出時から乳幼児健診時に簡単な調査票を加えて、母子保健の長期縦断調査を住民や行政と一緒に進めている。他にも富山スタディーや21世紀出生児コホートなど、いくつかの母子保健の研究が進行しているが、それぞれの地域の事業で収集している情報を生かすことができて、全国の成果を集積すれば、日本全体の根拠として広く活用できる。そのためにはある程度標準化された情報収集と、それを解析するシステムが必要である。

現在、厚生科学研究費助成金の研究班でシステムの構築を行っており、健やか親子21の最終評価の際には、このシステムによる指標のモニタリングの結果を活用できればと思っている。



3. 根拠を社会に説明しよう

科学的根拠を創生するための疫学研究には、人々の協力が不可欠である。また、事業をする際にもその必要性を説明しなければならぬ。情報を伝えるメディアは健康問題についてもその役割は大きい。報道がきっかけで特定の健康問題に世間の耳目が集まり、メディアが政府の重い腰を上げさせる重要な役割を担っている。

一方、これが個別問題の感情的報道である場合、社会全体の中で問題の重要性や優先順位を見誤らせることがある。例えば、麻疹の予防について、日本は麻疹排除に向かう第一段階の制定期間であり、第二段階の集団発生予防期に達していないとWHOに指摘されているが、その原因は麻疹予防接種の摂取率の低さにある。これが平成7年の予防接種法の改正による勧奨接種や、個別接種への移行が原因とすれば、それは最も重要な集団免疫よりも、当時報道が盛んに行われた予防接種による健康被害に関する社会状況の変化を重視しすぎたためかもしれない。

個々の健康被害対策と集団免疫を両立させる施策を行うには、両方の正確な情報の提供と理解を求める活動が必要である。そこで、これまでのポスターや、パンフレット、健康まつりのような啓発方法をさらに進化させて、より専門的な情報の提供と直接対話ができる「公衆衛生カフェ」や、「公衆衛生アゴラ(広場)」の開催を提案したい。

4. 対策が有効に機能する社会を取り戻そう
科学的な現状把握と根拠に基づいた対策が策定されても、それが有効に機能する状況になければ、成果は上がらない。医療保険を使えない人、医療

を受けられない人の増加や、育児支援対策を実施できない企業や、育児支援を受けられない親が多いことは、制度が機能していないことを意味する。その要因が格差社会という言葉に代表される経済のみならず、教育や行政施策の不公平によるものであれば、公衆衛生はそこに目を向けなければならぬ。

社会医学の重要性は他書に譲るとして、OECDの報告でも格差が広がった国としてワースト5に入る日本において、改めて公衆衛生の本来的意義が憲法第25条の生存権にあることを思い起こす必要が出てきた。さらに、家庭の格差だけでなく、市町村の母子保健事業の格差が広がっている。例えば、資金を必要とする小児の医療費助成事業などの政策に加え、意識に依存する妊娠初期の喫煙状況を収集するような事業でも、それを収集して解析している市町村は67.4%にとどまっている。ことから、行政施策の格差は明らかである。日本に住む子どもたちや親が標準的な支援をどこでも受けられる体制を維持するために、都道府県、国がその実態を把握して、早急に必要支援をしなければならぬ。

5. 先端科学を子育てに生かそう

ゲノム科学、脳科学が飛躍的に進歩し、その社会応用が広範囲にわたって生活を大きく変えようとしている。出生前や発症前の遺伝子検査の普及、脳イメージングなど先端の脳科学による子どもたちの社会的発達性の解明と育児や教育への応用、それを望む声が大々い反面、倫理的、法的、社会的課題(ELSI: Ethical, Legal and Social Implication)を抱えている。

体外受精による出生数は2006年に19,112であり、56人に1人が体外受精による妊娠出産となった。10年間に約2.5倍に増えたとおり、生殖補助医療技術が急速に社会に定着したと言える。同時に、代理出産など第三者の関与する生殖補助医療技術の是非や、生まれてくる子どもに対する法的整備など、新たな課題を抱えている。科学の進歩は生活を豊かにするために活用したい。そのためには先端科学と社会との接点を科学し、先端科学が育児支援のために活用できるような環境整備や法整備をすることが必要であり、それも公衆衛生の重要な役割である。

5つの提言を実現するための基盤は情報と笑顔

上記のことを実現するための基盤のひとつは、情報を収集して活用できるシステムの構築である。新たな問題に迅速に対応していくために、地

域や国、世界で今何が起きているのかをリアルタイムに把握すること、個別に何が課題となっているかを知る事が不可欠である。また、情報を共有することは問題の理解を深め、対立する考え方についても思いやりを持ちながら、解決に向けたチャレンジを促進する、母子保健のモニタリングシステムについては、前述の研究法で過去数年にわたって検討して、その実行可能性についての検証を地域で行っている。加えて、システムが有効に機能している地域を経験を収集して、育児支援に必要な情報収集・活用システムのあるべき実行可能性を十分に検討したい。

そして、もうひとつの基盤は担当者の笑顔である。笑顔は笑顔を生み、課題を解決する力を持っている。子どもや親の笑顔があふれる社会にするには、まず、それを支援する私たちが、どんなに苦しくても、笑顔をやめずにはいられない。

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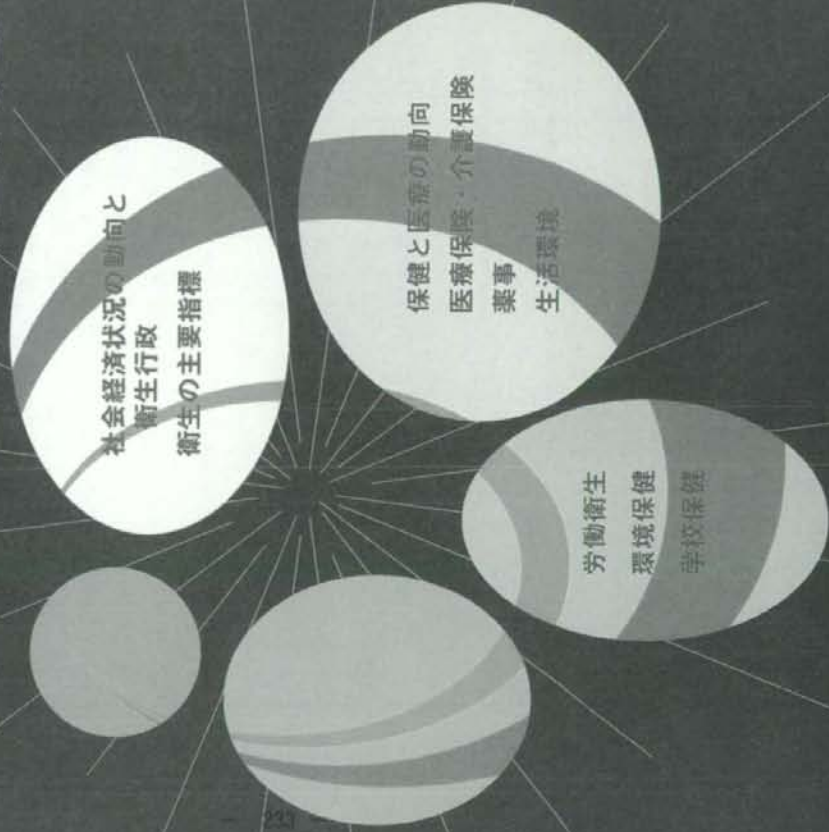
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3-12 母子保健対策一健やか親子21と次世代育成支援対策推進法

21世紀の母子への健康目標

21世紀以降における母子保健の施策推進計画 (2001～2010年)

課題	①思春期の食生活の強化と健康増進の推進	②妊婦、出産に関する不安軽減と体感への改善と子育てへの支援	③小児保健の健全な発展の推進	④子どもたちのさらなる発達促進と育ちが不安な家庭の軽減
主な目標 (2010年)	<ul style="list-style-type: none"> 10代の肥満率 (減少) 10代の性感染症罹患率 (減少) 10代の自殺率 (減少) 10代の喫煙率 (減少) 	<ul style="list-style-type: none"> 妊婦健康率 (増大) 出産後1年以内の母乳育児率 (増大) 産後うつ病の発生率 (減少) 産後うつ病の発生率 (減少) 産後うつ病の発生率 (減少) 	<ul style="list-style-type: none"> 出生率 (増大) 出生率 (増大) 出生率 (増大) 出生率 (増大) 	<ul style="list-style-type: none"> 虐待による死亡数 (減少) 虐待による死亡数 (減少) 虐待による死亡数 (減少) 虐待による死亡数 (減少)
親子	妊婦健康一層しよく期 胎児健康一層しよく期	妊婦健康一層しよく期 胎児健康一層しよく期	児童健康一層しよく期 青少年健康一層しよく期	児童健康一層しよく期 青少年健康一層しよく期



健やか親子21のホームページ <http://hmo.med.yamanashi.ac.jp/sukoyaka/>

平成12年、これまでの母子保健の取り組みと状況を踏まえ、21世紀の母子保健の取り組みの方向性を示した「健やか親子21」が策定された。主要課題は、①思春期保健対策の強化と健康教育の推進、②妊娠・出産の安全性と快適さの確保、③子どもたちの安心・安全な育ちの促進と育ちが不安な家庭の軽減、④子どもたちの心の安らぎを確保することである。中間評価では多くの点で改善点が見られたが、新たな課題も明らかになり、目標達成に向けて追加された。一方、合計特殊出生率の低下が続く中、15年7月に次世代育成支援対策推進法が制定されたことを受けて、17年3月までに「行動計画」を都道府県、市町村、企業が策定することとなった。また、16年12月に「子ども・子育て応援プラン」が策定された。19年には「子どもと家族を応援する日本」重点戦略検討会が設置され、ワークライフバランスなどの取り組みが検討された。

参照：本編95～103頁 (第3編第2章 1.母子保健)

3-13 母子保健対策一サービスの実施体制

市町村を中心とした母子保健事業

◎母子保健事業の市町村への一元化の理由



注 下図は実施主体が都道府県から市町村に移った事業である。

出生率の低下、高齢化が進み、児童を健全に生み育てていくことがますます重要な課題となっている。平成6年に、住民により身近な母子保健サービスの提供などを目的として、母子保健法が改正された。主な改正点として、母子保健サービスの実施体制における保健所と市町村の役割が見直され、母子保健事業の市町村への一元化が図られた。

保健所は市町村に対する指導など以外には、低出生率重点児の届け出の受理、未熟児や小児慢性疾患児の訪問などの専門的サービスを行う。市町村は、ほとんどすべての基本的サービスを受け持つ。妊娠届の受理、母子健康手帳の交付と1歳6カ月児健康診査だけでなく、妊産婦、乳幼児、3歳児を含む健康診査、妊産婦と新生児の訪問指導などである。また、妊婦を保護するためにマタニティーマーケットの活用が推進されている。

参照：本編95～103頁 (第3編第2章 1.母子保健)

3-14 母子保健対策-保健指導と健康診査

結婚前から一貫したサービス体系を誇る母子保健対策

平成20年(08)6月

区分	思春期	結婚	妊娠	出産	1歳	2歳	3歳
健康診査等		妊産婦健康診査	乳幼児健康診査 新生児聴覚検査 先天性代謝異常等検査	1歳6か月児健康診査	3歳児健康診査		
保健指導等	思春期保健相談等事業 ・思春期クリニック等	母子保健相談指導事業(婚前学級) 育児指導文庫事業 ・母子保健地域活動事業 ・健全な出生児産事業 ・ふれあい食体験事業	保健指導による訪問指導等 妊娠の届け出と母子健康手帳の交付 マタニティーマー配布 こんにちは赤ちゃん事業 (育児学級)	・休日健診・相談事業 ・乳幼児の育成指導事業	・虐待・いじめ対応事業 ・児童虐待防止市町村ネットワーク事業 ・母子栄養管理事業 ・出産前小児保健指導(プレネイタルビジット)事業 ・出産前後ケア事業 → 乳幼児期における育児支援強化事業		
						生涯を通じた女性の健康支援事業(不妊に悩む夫婦の相談、一般健康相談)	

注：()は事業名、*はその事業が居てある。

母子保健対策は保健指導、健康診査、医療保護、医療保護、母子保健の基盤整備などに大別される。結婚前から妊娠、出産、育児期、新生児、乳幼児期を通じて一貫した体系で、サービスの総合的な提供を目指している。

保健指導には、妊娠届をした者への母子健康手帳の交付、妊産婦と乳幼児の保健指導などがある。19年から生後4カ月までの全戸訪問事業(こんにちは赤ちゃん事業)を開始した。健康診査には妊婦、乳幼児(1歳6カ月児と3歳児)に対する健康診査などがある。新生児には、先天性代謝異常症などによる心身障害を予防するために、マス・スクリーニング検査が実施され、発見者は小児慢性特定疾患治療研究事業で医療費の公費負担が受けられる。一方、神経芽細胞腫検査事業は平成16年度から休止となった。

参照：本編95～103頁(第3編第2章 1.母子保健)

3-15 母子医療対策と母子保健基盤整備

新しい知見を基に様々な施策が導入される母子保健医療対策

平成20年(08)6月

区分	思春期	結婚	妊娠	出産	1歳	2歳	3歳
医療保護等		特定不妊治療費助成事業 妊産婦健診の確保推進		未熟児養育医療 小児慢性特定疾患治療助成事業 小児慢性特定疾患児日常生活用具給付事業 結核児童に対する療育の給付 療育指導事業			
医療対策等		再生労働科学研究(子ども家庭総合研究)		母子医療施設等整備事業(小児医療施設・周産期医療施設の整備) 総合周産期母子医療センター運営事業 周産期医療ネットワーク(運営協議会、システム整備等) 子供の心の診療拠点病院整備推進事業 小児科・産科医療体制整備事業			乳児・病後児保育事業

母子保健を支える制度に、医療保護がある。まず、公費負担医療として、妊娠中毒症への訪問指導と、その結果、入院治療が必要とされた妊産婦(低所得階級)に対する入院医療費の給付(医療援助：母子保健法17条)、出生時体重2000g以下の未熟児などに対する入院医療費の給付(養育医療：同20条)、小児難病(約500疾病)の小児に対する小児慢性特定疾患治療研究事業(平成17年4月に制度の改善と重点化を実施)、障害のある児童に対する自立支援医療、および結核児童療育給付制度がある。また、妊娠・出産時の緊急事態に対応するための様々な周産期医療対策が行われている。

母子保健の基盤整備には、①家庭計画、思春期保護、②生涯を通じた女性の健康づくり、③乳幼児突然死症候群(SIDS)対策、④養育の推進、⑤生補補助医療技術のあり方、⑥不妊医療に対する経済的支援、⑦子どもの心の診療拠点病院構築推進事業」を子どもの心の問題について20年度に「子どもの心の診療拠点病院構築推進事業」を創設した。他に乳幼児の事故防止対策、神経管閉鎖障害発症リスク軽減のための薬

参照：本編95～103頁(第3編第2章 1.母子保健)

研究

保育所における保護者への保健情報提供に関する要因の検討

深水 京子¹⁾, 荒木田美香子²⁾

【論文要旨】

本研究は、保育所における保護者への保健情報提供を推進する対象を検討するため、全国から抽出した1,500保育所を対象に、保健情報の提供の現況とその関連要因を質問紙にて調査した。回収率は67%。その結果、保健情報の提供状況は健康診断や身体測定結果の報告は9割以上と高値を示したが、健康相談会、健康教育は3割程度に留まった。保健情報の提供は多様な保育サービスの提供との関連がみられた。また、看護職の配置と福祉職の活用が保健情報の提供を推進しており、保健安全委員会や年間保健活動計画も関連していた。多様な保育サービスの増加が予測される現状において、保健情報の提供を推進するために、保健専門職の活用に加え保健管理体制の整備を進めることの必要性が示唆された。

Key words: 保育所, 保護者, 保健情報, 保健管理体制, 子育て支援

1. 緒言

近年、30-35歳の女性の就業率が上昇しており、保育所の利用者数が増加している。また、子育ての孤立化や子どもに関する理解の不十分から、不安や悩みを抱える保護者が増加している¹⁾。このように子育て環境が変化している中、平成19年保育指針の改訂(報告書)²⁾では、保育所は子どもを保育だけでなく、就業状況や子どもの関係性を踏まえた適切な支援や地域の子育て支援、さらには保護者の養育能力の向上を推進するための役割が求められている。子育て支援センターの相談内容を調査した結果では、62.4%を保護者生(身体発育、身体症状、食事、排便、睡眠、感染症、予防接種)に関する内容が占めていたことから、もろもろに

提供が必須である。しかし、未就学児の保護者にとっても、地域保健からの情報提供は利用しにくいことが報告されており、保育所が保健情報の提供機能をもつことが重要と考えられる。

一方、先行研究では保育所における看護職の配置は約2割³⁾であり、福祉職や保健師や市町村の保健師との連携も少ないことが報告されている⁴⁾。また、保育所の保健管理体制は地域設置主体、保育サービスの種類、健康問題を持つ園児の有無といった保育体制に影響を受けていることが報告されており⁵⁾、個々の保育所により保健情報の提供状況には差があることが考えられる。したがって、保育所が保護者の養育能力の向上を支援するためには、今後、保育所における保健情報の提供機能をより一層推進させるための対策が必要である。

これまでに保育所の保健情報の提供に関する Examination of Factors Disseminating Health Information to Parents of Nursery School Children in Japan

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実態調査はみられるが、推進する要因を検討したものには不足している。そこで、本研究では保育所を利用する保護者へ保健情報を提供する目的の対策を検討する資料を得ることを目的に、保健情報の提供状況の把握と関連する要因を検討した。

II. 方法

1. 調査対象

厚生労働省「全国認可保育所検索サイト」⁶⁾子育てネットを用い、東京都5%、政令市5%、中核市5%、その他の市町村10%で地域性を層別化し、層化無作為抽出された1,500ヶ所の保育所を対象とした。記入者は、調査票に管理上の項目(地域、設置主体、保育サービス、0歳児保育など)を含むことから、保育所所長とした。分析対象は、回収率700件(回収率46.7%)から、1/3の項目に記載のない77件を除外し、有効回答数653件(有効回答率99.0%)とした。

2. 調査期間および方法

平成19年9月中旬-10月中旬に無記名自記式質問紙調査を行った。回収は郵送法とした。

3. 調査項目

1) 保育所の施設および保育状況に関する基本的事項
先行研究⁷⁾より、保健管理体制の整備に關する要因(以下、運営要因)と記す)として、所在地、設置主体、保育サービスの種類、過去3年間における健康問題を持つ園児の在り状況の4項目を抽出した。

2) 保健管理体制

先行研究⁷⁾および関係法規(保育所保育指針、学校教育法)より、保育所で実施されているあるいは重要と指摘されている体制として、保育士の保健に関する研修・勉強会、保健安全委員会の組織の設置、年間保健活動計画の立案、福祉職との連絡会・勉強会、保健師や保健センターとの連絡会・勉強会、市町村保健師の巡回訪問、看護職の配置の7項目を抽出した。

3) 保健情報の提供

先行研究⁷⁾より、現在保育所で提供されている、あるいは提供される必要性があると思われる保健情報として、健康診断結果の報告、

身体測定結果の報告、受診勧奨後の確認、1日の生活記録、発熱・下痢などの体調変化の報告、アレルギー一患の食事記録、有疾患・要観察児の健康状態の報告、服薬管理記録、保健だより、健康相談会、健康教育の11項目を抽出した。

4. 分析方法

視覚変数を各保健情報の提供の有無とし、説明変数を背景要因(計4項目)および保健管理体制(計7項目)とし、検定を行った。有意差のみなられた説明変数をロジスティック回帰分析に投入した。統計解析ソフトSPSS12.0J for Windowsを用い、有意水準は両側検定5%未満とした。

5. 倫理的配慮

調査依頼書にて、本研究の目的と内容、質問紙の自由意思、記入者ならびに保育所の個別情報を公開しないことを説明し、質問紙の返送をもって同意を得たものとした。なお、本研究は大阪大学医学部保健学系倫理委員会の承認を得て実施した。

III. 結果

1. 保育所の施設概要

1) 地域、設置主体
地域分布は北海道22(3.2%)、東北81(11.7%)、関東131(18.9%)、中部138(19.9%)、近畿97(14.0%)、中国60(8.7%)、四国47(6.8%)、九州108(15.6%)であった。設置主体は、公営は41(0.1%)、都道府県立1(0.1%)、市町村立286(41.3%)、私営は社会福祉法人384(55.4%)、財団/社団/日赤(1.2%)、その他1(1.7%)であった。

2) 保健管理体制

1) 保育士の保健に関する研修61.0%、看護職の配置50.2%、保健師・保健センターとの連絡会38.5%、市町村保健師の巡回訪問36.1%、福祉職との連絡会25.8%、年間保健活動計画25.4%、保健安全委員会10.1%であった。設置主体別にみると、保育士の保健に関する研修、看護職の配置、福祉職との連絡会、年間保健活動計画は市町村立に

表3 設置主体別の保護管理体制と保育サービスの提供状況

設置主体	女性会*		市町村立**		社会福祉法人3**		不明
	実施 保育所数	%	実施 保育所数	%	実施 保育所数	%	
保育所の配置に関する協議会・連絡会	423	61.0	150	52.4	206	67.7	**
児童館・児童センターとの連絡会・協議会	368	50.2	103	36.0	266	81.5	**
保健所・保健センターとの連絡会・協議会	267	38.5	130	42.0	139	36.2	0.5
保健師・保健師助産師との連絡会・協議会	250	36.1	114	39.0	126	32.8	**
福祉士との連絡会・協議会	176	25.4	47	16.4	124	32.3	**
年間保健活動計画	179	25.4	59	20.6	113	29.4	**
保健安全委員会	70	10.1	29	10.1	40	10.4	n.s.
その他	32	4.6	12	4.2	20	5.2	n.s.
延長保育	624	90.0	234	81.8	371	95.6	**
0歳児保育	604	87.2	230	80.4	354	92.2	**
一時保育	484	69.8	188	56.7	304	79.2	**
子育て支援センター	479	69.1	219	76.0	245	63.0	**
児童クラブ	347	50.1	149	52.1	188	49.0	n.s.
休日保育	280	40.4	104	36.4	170	44.3	**
夜間保育	115	16.6	36	12.6	95	24.7	**
児童クラブ	115	16.6	8	2.8	106	27.6	**
一時保育	88	12.7	15	5.2	71	18.5	**
児童館	19	2.7	4	1.4	14	3.6	n.s.
児童館	14	2.0	2	0.7	12	3.1	n.s.

*1: 市町村立, 社会福祉法人立以外にその他(国立・都道府県立・財団/社団/日赤など)を含む

*2: 設置主体は, 市町村立と社会福祉法人立が過半数を占めたため, 2主体間の比較を行った

(*) p<0.01, ** p<0.05, n.s.: not significant

比べ, 社会福祉法人立で有意に高かった。

保育サービスは高い額から, 延長保育90.0%, 0歳児保育87.2%, 一時保育69.8%, 障害児保育1.1%, 早期保育50.1%, 子育て支援センター40.4%, 休日保育16.6%, 放課後児童クラブ16.6%, 病(後)児保育12.7%, 夜間保育2.7%, 児童館2.0%であった。設置主体別で見ると, 延長保育, 0歳児保育, 一時保育, 子育て支援センター, 休日保育, 放課後児童クラブ, 病(後)児保育は社会福祉法人立で有意に高かった。

3) 看護職の配置年数 (表2)

看護職を配置している保育所は50.2%であった。公営では, 国立および都道府県立には看護士の配置はなく, 市町村立は103ヶ所(36.0%)が配置していた。私営では社会福祉法人立は236ヶ所(61.5%)が看護職を配置しており, 財団/社団/日赤は5ヶ所(62.5%), その他では4ヶ所(33.3%)が配置されていた。また, 保育所に看護職が配置された年数は, 過去5年以内が32.8%と最も多かった。

表3 保護者への保護情報提供 (N=693)

保護情報提供の種類	実施あり		実施なし		不明
	n	%	n	%	
健康相談者の報告	671	96.8	14	2.0	8
受診履歴の提供	588	84.8	67	9.7	38
身体測定記録の報告	664	95.8	16	2.3	13
毎日の育児の健康状態の報告	602	86.9	74	10.7	17
発熱・下痢などの体調変化の報告	573	82.7	103	14.9	17
アレルギー児の食生活記録*	219	49.0	221	49.4	7
有病児・障害児の健康状態の報告**	279	43.3	349	54.2	16
児童館管理記録	414	59.7	261	37.7	18
保健師より	507	73.2	181	26.1	5
保健師協会	191	27.6	495	71.4	7
児童館教育	227	32.8	440	64.8	17

*1: 過去3年間で, 特別な体質(アレルギーなど)を持つ育児がいる保育所 (n=447) を分母とし, 実施割合を算出

*2: 過去3年間で, いずれかの健康問題を持つ育児がいる保育所 (n=644) を分母とし, 実施割合を算出

3. 保護情報の提供に関する要因

1) 保護管理体制 (表4)

アレルギー児の食生活記録, 児童館管理記録, 保健師による食生活記録, 有病児・障害児の健康状態の報告, 健康教育, 健康相談会は50%以下であった。

表4 保護情報提供に関する要因 (ロジスティック回帰分析)

保護管理体制	50%未満提供			50%以上提供		
	odds ratio	75%	25%	odds ratio	75%	25%
健康相談者の報告	2.30	1.38	2.87	1.00	1.00	1.00
受診履歴の提供	1.89	1.25	2.87	1.00	1.00	1.00
身体測定記録の報告	2.41	1.63	3.57	1.00	1.00	1.00
毎日の育児の健康状態の報告	1.86	1.00	2.31	1.00	1.00	1.00
発熱・下痢などの体調変化の報告	1.64	1.16	2.31	1.00	1.00	1.00
アレルギー児の食生活記録*	2.41	1.63	3.57	1.00	1.00	1.00
有病児・障害児の健康状態の報告**	1.86	1.00	2.31	1.00	1.00	1.00
児童館管理記録	1.64	1.16	2.31	1.00	1.00	1.00
保健師より	2.32	2.11	1.61	1.00	1.00	1.00
保健師協会	3.06	2.27	2.30	1.00	1.00	1.00
児童館教育	1.77	1.19	2.07	1.00	1.00	1.00
健康相談者の報告	2.29	1.46	3.24	1.00	1.00	1.00
受診履歴の提供	2.78	1.77	4.38	1.00	1.00	1.00
身体測定記録の報告	3.00	1.37	6.88	1.00	1.00	1.00
毎日の育児の健康状態の報告	1.82	1.25	2.63	1.00	1.00	1.00
発熱・下痢などの体調変化の報告	1.43	1.00	2.01	1.00	1.00	1.00
アレルギー児の食生活記録*	1.44	1.01	2.07	1.00	1.00	1.00
有病児・障害児の健康状態の報告**	1.82	1.25	2.63	1.00	1.00	1.00
児童館管理記録	1.64	1.16	2.31	1.00	1.00	1.00
保健師より	2.32	2.11	1.61	1.00	1.00	1.00
保健師協会	3.06	2.27	2.30	1.00	1.00	1.00
児童館教育	1.77	1.19	2.07	1.00	1.00	1.00
健康相談者の報告	2.29	1.46	3.24	1.00	1.00	1.00
受診履歴の提供	2.78	1.77	4.38	1.00	1.00	1.00
身体測定記録の報告	3.00	1.37	6.88	1.00	1.00	1.00
毎日の育児の健康状態の報告	1.82	1.25	2.63	1.00	1.00	1.00
発熱・下痢などの体調変化の報告	1.43	1.00	2.01	1.00	1.00	1.00
アレルギー児の食生活記録*	1.44	1.01	2.07	1.00	1.00	1.00
有病児・障害児の健康状態の報告**	1.82	1.25	2.63	1.00	1.00	1.00
児童館管理記録	1.64	1.16	2.31	1.00	1.00	1.00

*1: 健康相談者が実施割合の低い保育所を除外した

*2: 有病児・障害児の健康状態(発熱・下痢)のうち, 看護職の報告を示す

odds ratioは, 危険率(健康問題)の発生率の比を示す

** p<0.01, * p<0.05