

ORIGINAL

Effects of primary prevention of child abuse that begins during pregnancy and immediately after childbirth

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Abstract : Objective : To improve primary prevention of child maltreatment, the association between at-risk parents identified by maternity hospitals and local health centers and intervention outcomes was investigated. **Methods :** A screening program for primary prevention of child maltreatment has been implemented for parents with children aged <3 years in A Prefecture. At-risk parents are identified at maternity hospitals and local health centers. Public health nurses provide intervention to promote positive parenting through home visits, and referred to child protective centers when they suspect child maltreatment. **Results :** Between 2009 and 2014, a total of 2,252 new at-risk parents were identified, 956 from maternity hospitals and 1,296 from local health centers. Among these at-risk parents, 356 (15.8%) were referred to child protective centers for possible child maltreatment, 88 of which came from maternity hospitals and 268 from local health centers. The rate of referral from maternity hospitals was significantly lower than that from local health centers (9.2% vs. 20.7%, $p < 0.001$). **Conclusions :** Identification of at-risk parents during pregnancy and early intervention resulted in a decrease in the rate of referrals to child protective centers. The specific risk factors of “perceived lack of social support”, “mental illness” and “teen pregnancy” may be mitigated by early intervention. *J. Med. Invest.* 64 : 153-159, February, 2017

Keywords : primary prevention of child maltreatment, at-risk parents, maternity hospital, home visit

INTRODUCTION

Child maltreatment, which includes physical, emotional and sexual abuse and neglect, and its adverse consequences have been recognized as a serious public health problem. In Japan, there were 44,211 referrals to child protective centers for child maltreatment in 2009, and this increased to 88,931 in 2014. In A Prefecture, 710 children (approximately eight children per thousand) were identified as victims of maltreatment in 2014. Emotional abuse is by far the predominant form of maltreatment, followed by physical abuse and neglect.

Maltreated children often experience emotional difficulties in early childhood, and have low educational attainment and social maladjustment in childhood and adolescence. These consequences often result in higher rates of internalizing problems, school refusal, delinquency, criminality and other antisocial behaviors, adult relationship problems including intimate partner violence, and post-traumatic stress disorder (1-3). It also appears that maltreatment results in poor parenting behaviors, contributing to the risk of perpetrating child maltreatment and the intergenerational cycle of maltreatment (4, 5).

Primary prevention programs for child maltreatment consist of early identification and intervention for at-risk parents who are identified as having inadequate parenting skills based on a number of risk factors. The most recent reviews of the effects of maltreatment prevention indicate that intervention through home visits can improve parenting skills and reduce child maltreatment (6, 7). In the interest of improving primary prevention programs for child

maltreatment, this study investigated the association between at-risk parents identified by maternity hospitals and local health centers and intervention outcomes. This paper also offers an important next step concerning how to intervene with at-risk parents predicted to maltreat their children.

METHODS

1. Identification of at-risk parents

The aim of this study was to improve primary prevention programs for child maltreatment. The Early Identification and Intervention Program (EIIP) has been implemented as a population-based screening for possible child abuse in all municipalities in A Prefecture since 2009 (8). Parents are screened to assess their risk of experiencing difficulties in caring for their children based on 21 risk factors established by analyzing various aspects of parents who were later found to be abusive to their children (9).

The 21 risk factors consist of three major categorical characteristics (child, parent and socio-demographic characteristics), and factors directly related to parent-child interactions. Child characteristic factors associated with an increased risk of maltreatment include “multiple pregnancies or low birth weight”, “history of mother-child separation”, “congenital disorders”, and “developmental delay of child”. Parent characteristic factors include “single parent”, “marital conflicts and violence”, “adverse childhood experiences”, “mental illness”, “personality problems”, “difficulty resolving stress”, “unintended pregnancy”, “teen pregnancy” and “drug or alcohol dependency”. Socio-demographic characteristic factors include “financial problems”, “perceived lack of social support”, “isolation from family”, and “dirty, disorganized dwelling”. Factors directly related to parent-child interactions include “negative attributions and perceptions”, “poor quality of care giving behavior”, “parenting stress and anxiety”, and “not undergoing child wellness checkups”.

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Parents with the above risk factors are defined as “at-risk parents”. The risk factors were assessed through reviews of the parents’ maternity passbooks and in-hospital general records ; examinations of and conversations with parents ; and observations of parent-child interactions at the maternity hospital, the parents’ home and local health centers.

At-risk parents are identified at maternity hospitals and at local health centers. At both public and private maternity hospitals, at-risk parents are identified by obstetricians or maternity nurses at outpatient or inpatient clinics during pregnancy or at birth. At local health centers, at-risk parents are identified through the “Hello Baby Project” and “Healthy Child Checkups”. The “Hello Baby Project” promotes home visits to all children within 4 months after birth to assess the presence of risk factors. “Healthy Child Checkups” refer to health examinations conducted a total three times for infants aged 3 months to 1 year and toddlers aged 18 months and 3 years. Therefore, at-risk parents are identified by public health nurses at local health centers from 4 months to 3 years after the parents began child care at home.

2. Flow of intervention for at-risk parents

When at-risk parents are identified at maternity hospitals, obstetricians or maternity nurses refer them to local health centers for parenting support. Home visits promoting adequate parenting skills are provided by local health center public health nurses immediately after the parent and child are discharged from the maternity hospital. If parents want to consult with a public health nurse while still in the hospital, face-to-face meetings take place before they are discharged. At-risk parents identified at maternity hospitals are also privately informed that they will receive a home visit by a public health nurse before they are discharged. In the case of at-risk parents identified through the “Hello Baby Project” or “Healthy Child Checkups”, home visits start after at-risk parents are identified and after they have already begun rearing their child. Namely, at-risk parents identified both from maternity hospitals and local health centers are supported by public health nurses, but the start of support varies by case.

Public health nurses have professional knowledge on parental health, child development, and promotion of the adequate parenting skills that can reduce child maltreatment. Home visits are continued until the nurses are confident that the parent-child interactions are appropriate and that the situation is safe for the child.

Public health nurses refer to child protective centers, which are ultimately responsible for follow-up on cases of child maltreatment, immediately after they become aware of possible child maltreatment through regular home visits. Case workers at child protective

centers assess the home environment and total circumstances of the at-risk parents identified by public health nurses. After the assessment, specific strategies for the child and parent(s) are planned with particular attention paid to continuing in-home support or removing the child from the home temporarily or permanently, which may occur if abuse is deemed imminent (see Fig. 1).

3. Sources of data for statistical analysis

This study was conducted in collaboration with the Health Promotion Division of Prefecture A. In this study, public health nurses were asked to respond to a survey regarding at-risk parents receiving child care support from 18 maternity hospitals and 24 local health centers in each municipality in Prefecture A. Personal identifiers of the at-risk parents and of the nurses who responded to the survey were removed. Data were obtained, coded, and collected by the Health Promotion Division of Prefecture A. This study was conducted with the approval of the Ethics Board of Tokushima University Hospital, Tokushima, Japan (acknowledgement no. 2410).

4. Statistical analysis

The data were analyzed using SPSS 22.0 for Windows with a level of significance of less than $p < 0.05$. Student’s *t* test and Fisher’s chi-square test were used to determine the rate of each risk factor based on the organization of the maternity hospital and local health center, and the differences in risk factors in relation to the intervention outcome of whether at-risk parents were referred to child protective centers or not.

RESULTS

1. Intervention outcomes for at-risk parents

Population-based screening conducted through the EIPP for the 6 years from 2009 to 2014 identified a total of 2,252 new at-risk parents, 956 of which were identified at maternity hospitals and 1,296 of which were identified at local health centers through the “Hello Baby Project” and “Healthy Child Checkups”.

Among the 2,252 at-risk parents, 356 (15.8%) were referred to child protective centers for possible child maltreatment, 88 of which came from maternity hospitals and 268 from local health centers that provide parenting support through public health nurses. The rate of referral to child protective centers from maternity hospitals was significantly lower than that of local health centers (9.2% vs. 20.7%, $p < 0.001$) (see Fig. 2). Identification of at-risk parents during pregnancy or at birth and home visits by public health nurses soon after

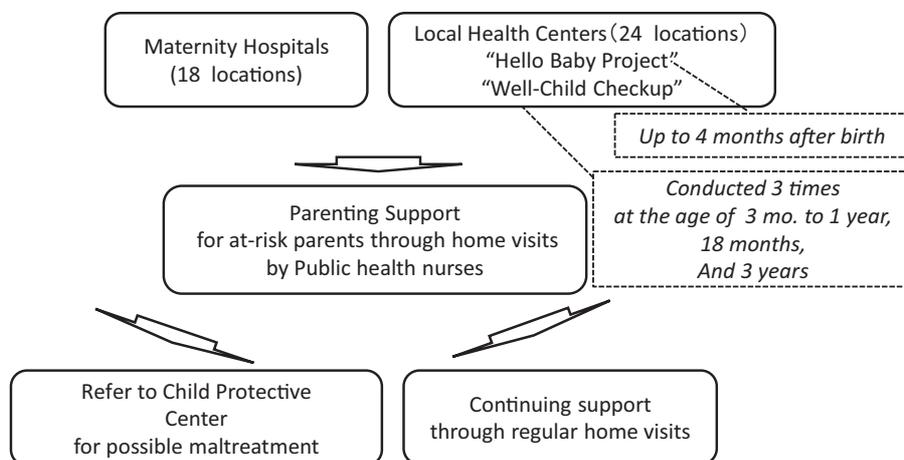


Fig. 1 : Identification for at-risk parents and Flow of Parenting Support

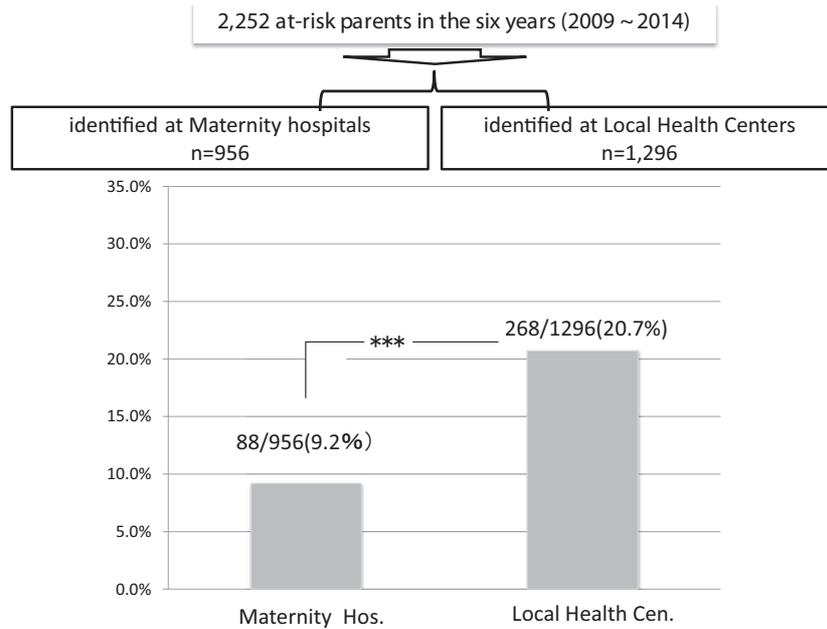


Fig. 2 : Rate of referral to child protective centers for possible child maltreatment

childbirth resulted in a decrease in the number of referrals to child protective centers for possible child maltreatment.

2. Relevance to the prevalence of risk factors

Table 1 shows the prevalence of each risk factor displayed by the at-risk parents identified at maternity hospitals and local health centers. Of all the risk factors, three child characteristic factors (“multiple pregnancies or low birth weight”, “history of mother-child separation” and “congenital disorders”), and three parent characteristic factors (“unintended pregnancy”, “teen pregnancy” and “mental illness”) had a significantly higher rate among at-risk

parents identified at maternity hospitals.

The following risk factors had a significantly higher rate among at-risk parents identified at local health centers : “developmental delay of child”, “not undergoing well-child checkups”, “negative attributions and perceptions”, “poor quality of care giving behavior”, “parenting stress and anxiety”, “personality problems”, “difficulty resolving stress”, “marital conflicts or violence”, “financial problems”, and “isolation from family”.

Table 2 shows the prevalence of risk factors displayed by at-risk parents referred and not referred to child protective centers ; 14 of the 21 risk factors were significantly predicted by referral to child

Table 1 : The prevalence of risk factors displayed by parents identified from Maternity hospitals and Local Health Centers

Risk factors	Maternity hospitals n=956	Local Health Centers n=1,296	p-value
Multiple pregnancy or Low birth weight	156 (16.3%)	71 (5.5%)	<0.001
History of mother-child separation	55 (5.8%)	38 (2.9%)	<0.01
Congenital disorders	112 (11.7%)	92 (7.1%)	<0.001
Developmental delay of child	72 (7.5%)	293 (22.6%)	<0.001
Not undergoing well-child checkups	20 (2.1%)	97 (7.5%)	<0.001
Negative attributions and perceptions	48 (5.0%)	110 (8.5%)	<0.01
Poor quality of care giving behavior	243 (25.4%)	421 (32.5%)	<0.001
Parenting stress, Anxiety	350 (36.6%)	689 (53.2%)	<0.001
Unintended pregnancy	79 (8.3%)	65 (5.0%)	<0.01
Teen pregnancy	192 (20.1%)	92 (7.1%)	<0.001
Adverse childhood experiences	78 (8.2%)	129 (10.0%)	
Mental illness	255 (26.7%)	232 (17.9%)	<0.001
Personality problems	145 (15.2%)	248 (19.1%)	<0.05
Difficulty resolving stress	82 (8.6%)	233 (18.0%)	<0.001
Dependency for drug or alcohol	5 (0.5%)	7 (0.5%)	
Single parent	157 (16.4%)	241 (18.6%)	
Marital conflicts or violence	58 (6.1%)	172 (13.3%)	<0.001
Financial problems	138 (14.4%)	256 (19.8%)	<0.01
Isolation from family	43 (4.5%)	129 (10.0%)	<0.001
Dirty, disorganized dwelling	39 (4.1%)	67 (5.2%)	
Perceived lack of social support	35 (3.7%)	60 (4.6%)	

Table 2 : The prevalence of risk factors displayed by at-risk parent referred to child protective center and non-referred

Risk factors	Ref. n=356	Non-ref. n=1896	p-value	Odds ratio
Multiple pregnancy or Low birth weight	26 (7.3%)	201 (10.6%)		
History of mother-child separation	18 (5.1%)	75 (4.0%)		
Congenital disorders	35 (9.8%)	169 (8.9%)		
Developmental delay of child	93 (26.1%)	272 (14.3%)	<0.001	2.111
Not undergoing well-child checkups	24 (6.7%)	93 (4.9%)		
Negative attributions and perceptions	51 (14.3%)	107 (5.6%)	<0.001	2.796
Poor quality of care giving behavior	168 (47.2%)	496 (26.2%)	<0.001	2.522
Parenting stress, Anxiety	167 (46.9%)	872 (46.0%)		
Unintended pregnancy	32 (9.0%)	112 (5.9%)	<0.05	1.573
Teen pregnancy	52 (14.6%)	232 (12.2%)		
Adverse childhood experiences	69 (19.4%)	138 (7.3%)	<0.001	3.063
Mental illness	97 (27.2%)	390 (20.6%)	<0.01	1.446
Personality problems	89 (25.0%)	304 (16.0%)	<0.001	1.746
Difficulty resolving stress	89 (25.0%)	226 (11.9%)	<0.001	2.463
Dependency for drug or alcohol	2 (0.6%)	10 (0.5%)		
Single parent	118 (33.1%)	280 (14.8%)	<0.001	2.861
Marital conflicts and violence	83 (23.3%)	147 (7.8%)	<0.001	3.617
Financial problems	147 (41.3%)	247 (13.0%)	<0.001	4.696
Isolation from family	53 (14.9%)	119 (6.3%)	<0.001	2.612
Dirty, disorganized dwelling	48 (13.5%)	58 (3.1%)	<0.001	4.939
Perceived lack of social support	63 (17.7%)	198 (10.4%)	<0.001	1.844

protective centers.

Table 3 shows the results of the analysis of risk factors for at-risk parents identified by maternity hospitals and Table 4 shows those for local health centers. Table 3 shows that the following three risk factors were not significantly different among at-risk parents identified at maternity hospitals who were referred and not referred to child protective centers : “perceived lack of social support”, “mental illness” and “teen pregnancy”. However, there was a significant difference in these three risk factors among at-risk parents identified at local health centers, as shown in Table 4.

DISCUSSION

This paper focuses on the impact of primary prevention of child maltreatment and reducing parental risks for maltreatment. The primary goal of early identification and intervention through home visits is to decrease the number of possible child maltreatment cases and parents referred to child protective centers. Primary prevention of child maltreatment through EIIP in A Prefecture consists of a three-stage approach. The first stage is a screening of all parents receiving care at maternity hospitals and local health centers to identify at-risk parents who may have difficulty caring for their children based on 21 risk factors. The second stage is regular home visits by public health nurses to prevent child maltreatment by promoting adequate parenting skills. The third stage is the referral of at-risk parents to child protective centers for possible child maltreatment, and psychological interventions through cooperation with other various community services aimed at improving child developmental problems, parental cognitive problems, and mental health issues.

Home visits for parenting support usually aim to improve inadequate parent-child interactions and family functioning in order to achieve child health and cognitive development. Such parenting support not only provides advice on parenting behaviors and attitudes, but also pays close attention to parent stress related to childrearing (6, 7).

With the parenting support of public health nurses, at-risk parents identified at maternity hospitals were associated with a significantly lower rate of referrals to child protective centers for possible child maltreatment compared with those identified at local health centers (9.2% vs. 20.7%). Actually, parent-child interactions begin immediately after childbirth. At-risk parents identified at maternity hospitals might be more emotionally stable than those identified at local health centers because home visits providing parenting support begin immediately after childbirth and these parents have the opportunity to develop positive partner relationships with public health nurses. However, at-risk parents identified through the “Hello Baby Project” and “Healthy Child Checkups” services become aware of the risk factors predicting child maltreatment after they begin caring for their child at home, which means they may encounter difficulties with child care before receiving support. Home visit services soon after childbirth are mainly to educate parents, build parenting skills, and prompt adequate parent-child interactions. Home visits beginning after child care has begun require the development of parent trust, assessment of risk factors that affect parenting, improvement of established parent-child interactions, and possibly collaboration with other social services to mitigate socio-demographic risk factors.

This study clarified the prevalence of risk factors among at-risk parents identified by two different types of healthcare facilities and explored the mediating properties of risk factors for referral to child protective centers. The prevalence of the following three risk factors showed no significant difference between at-risk parents referred and not referred to child protective centers identified at maternity hospitals : “perceived lack of social support”, “mental illness” and “teen pregnancy”. However, these three factors were significant among at-risk parents identified at local health centers. No significant difference in the prevalence rate of these three risk factors between at-risk parents referred and not referred to child protective centers shows that home visits immediately after childbirth for at-risk parents identified at maternity hospitals might mitigate the risk of child maltreatment that originates from these risk factors.

Table 3 : The prevalence of risk factors displayed by at-risk parent from maternity hospitals referred to child protective center and non-referred

Risk factors	Ref. n=88	Non-ref. n=868	p-value
Multiple pregnancy or Low birth weight	17 (19.3%)	139 (16.0%)	
History of mother-child separation	8 (9.1%)	47 (5.4%)	
Congenital disorders	13 (14.8%)	99 (11.4%)	
Developmental delay of child	13 (14.8%)	59 (6.8%)	<0.01
Not undergoing well-child checkups	5 (5.7%)	15 (1.7%)	<0.05
Negative attributions and perceptions	11 (12.5%)	37 (4.3%)	<0.01
Poor quality of care giving behavior	44 (50.0%)	199 (22.9%)	<0.001
Parenting stress, Anxiety	35 (39.8%)	315 (36.3%)	
Unintended pregnancy	16 (18.2%)	63 (7.3%)	<0.001
Teen pregnancy	24 (27.3%)	168 (19.4%)	
Adverse childhood experiences	27 (30.7%)	51 (5.9%)	<0.001
Mental illness	29 (33.0%)	226 (26.0%)	
Personality problems	22 (25.0%)	123 (14.2%)	<0.01
Difficulty resolving stress	23 (26.1%)	59 (6.8%)	<0.001
Dependency for drug or alcohol	1 (1.1%)	4 (0.5%)	
Single parent	28 (31.8%)	129 (14.9%)	<0.001
Marital conflicts and violence	20 (22.7%)	38 (4.4%)	<0.001
Financial problems	46 (52.3%)	92 (10.6%)	<0.001
Isolation from family	15 (17.0%)	28 (3.2%)	<0.001
Dirty, disorganized dwelling	13 (14.8%)	26 (3.0%)	<0.001
Perceived lack of social support	5 (5.7%)	30 (3.5%)	

Table 4 : The prevalence of risk factors displayed by at-risk parent from local health centers referred to child protective center and non-referred

Risk factors	Ref. n=268	Non-ref. n=1028	p-value
Multiple pregnancy or Low birth weight	9 (3.4%)	62 (6.0%)	
History of mother-child separation	10 (3.7%)	28 (2.7%)	
Congenital disorders	22 (8.2%)	70 (6.8%)	
Developmental delay of child	80 (29.9%)	213 (20.7%)	<0.01
Not undergoing well-child checkups	19 (7.1%)	78 (7.6%)	
Negative attributions and perceptions	40 (14.9%)	70 (6.8%)	<0.001
Poor quality of care giving behavior	124 (46.3%)	297 (28.9%)	<0.001
Parenting stress, Anxiety	132 (49.3%)	557 (54.2%)	
Unintended pregnancy	16 (6.0%)	49 (4.8%)	
Teen pregnancy	28 (10.4%)	64 (6.2%)	<0.05
Adverse childhood experiences	42 (15.7%)	87 (8.5%)	<0.001
Mental illness	68 (25.4%)	164 (16.0%)	<0.001
Personality problems	67 (25.0%)	181 (17.6%)	<0.01
Difficulty resolving stress	66 (24.6%)	167 (16.2%)	<0.01
Dependency for drug or alcohol	1 (0.4%)	6 (0.6%)	
Single parent	90 (33.6%)	151 (14.7%)	<0.001
Marital conflicts and violence	63 (23.5%)	109 (10.6%)	<0.001
Financial problems	101 (37.7%)	155 (15.1%)	<0.001
Isolation from family	38 (14.2%)	91 (8.9%)	<0.01
Dirty, disorganized dwelling	35 (13.1%)	32 (3.1%)	<0.001
Perceived lack of social support	27 (10.1%)	33 (3.2%)	<0.001

At-risk parents with the risk factor of “perceived lack of social support” often feel isolated from their social environment due to refusal of social support, which results in parenting stress and anxiety, poor parent-child interactions and subsequent child health and developmental problems. At-risk parents identified at maternity hospitals might be relieved from parenting stress and anxiety because

they receive support from public health nurses during pregnancy or soon after birth, thereby mitigating the risk originating from “perceived lack of social support”. Moreover, a secure and confidential interpersonal relationship between at-risk parents and public health nurses might be established through early home visits.

“Mental illness” of the parent(s) is a risk for inadequate parent-child interactions and therefore a strong predictor of potential child maltreatment. Nearly all parents with the risk factor of “mental illness” suffer from depressive disorders. Previous research found a positive association between maternal depression and inadequate parenting and poor parent-child interactions. Depressed mothers display less positive and more negative affection toward their children, communicate in few vocalizations, tend to be less responsive, withdraw while interacting with their children, are more hostile and irritable, and use more coercive parenting resulting in child neglect potential (10, 11). It is possible that the risk factor of “mental illness” detected at maternity hospitals is different from that at local health centers. Parents diagnosed with mental illness before or during pregnancy have already been encouraged to consult with a general practitioner or a psychological consultation center, but mental illness detected after delivery or during child care may cause parents to hesitate to consult proper professional services and consequently, depressive symptoms can worsen.

Parents with the risk factor of “teen pregnancy” are suspected of having poor parenting skills and parenting knowledge. Through their mediation analysis, Dixon *et al.* reported that the presence of the following three significant risk factors provided partial mediation of the intergenerational continuity of child maltreatment: parenting under the age of 21, history of mental illness or depression, and residing with a violent adult (12).

This study suggests that the identification of at-risk parents at maternity hospitals should be facilitated for primary prevention of child maltreatment, and home visits as early intervention and consultations with other services should be promoted during pregnancy and immediately after childbirth. It is expected that increasing the rate of identification of at-risk parents at maternity hospitals may correspond with a reduction in the number of cases of possible child maltreatment. Regrettably, all parents with the risk factors of “unintended pregnancy” and “teen pregnancy” were not always detected at maternity hospitals (as shown in Table 1); more effort should be put into identifying parents with these risk factors. Moreover, risk factors should be assessed when parents first report the pregnancy and receive a maternity passbook.

LIMITATIONS

At-risk parents in the present study were identified based on 21 risk factors. Risk factors were assessed through public health nurses' conversations with parents, which might not have allowed sufficient time to evaluate parents' personal characteristics. Moreover, at-risk parents are generally unwilling to disclose their history of adverse childhood experiences, including maltreatment, in conversations with parenting supporters if a reliable relationship has not been established. However, risk factors were also assessed through examination of parents' maternity passbook or in-hospital general records, which may have affected the percentage of each risk factor. Another limitation is the possibility that interviewers failed to identify at-risk parents due to lack of knowledge or experience. The intervention outcomes for preventive child maltreatment were assessed primarily based on whether public health nurses referred parents to child protective centers or not. Public health nurses make important decisions about referring at-risk parents to child protective centers when they encounter suspected or actual child maltreatment during home visits. There are many intangible factors that influence the success of identifying at-risk parents, such as the personality, attitude, skills and experience of the public health nurse. Therefore, the findings and implications for assessing the risk to child well-being are dependent on each individual public health nurse.

CONCLUSIONS

This study assessed the impact of identifying at-risk parents during pregnancy and at birth on preventing child maltreatment. With the parenting support provided by public health nurses, at-risk parents identified at maternity hospitals and during home visits conducted soon after the parents' discharge from the hospital were associated with a lower incidence of referral to child protective centers compared to at-risk parents identified at local health centers. This suggests that early identification of at-risk parents during pregnancy and soon after birth is effective for primary prevention of child maltreatment. Home visits conducted soon after delivery might mitigate the adverse effects originating from the risk factors of “perceived lack of social support”, “mental illness” and “teen pregnancy” on childcare.

CONFLICT OF INTEREST

None of authors has any conflict of interest to declare.

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REFERENCES

1. Springer KW, Sheridan J, Kuo D, Carnes M : Long-term physical and mental health consequences of childhood physical abuse : Results from a large population-based sample of men and women. *Child Abuse and Neglect* 31 : 517-530, 2007
2. Currie J, Widom CS : Long-term consequences of child abuse and neglect on adult economic well-being. *Child Maltreatment* 15(2) : 111-120, 2010
3. American Psychiatric Association : Desk Reference to the Diagnostic Criteria from DSM-5. Arlington, VA. pp137-144, 2013
4. Thornberry TP, Henry KL : Intergenerational continuity in maltreatment. *Journal Abnormal Childhood Psychology* 41 : 555-569, 2013
5. Smith AL, Cross D, Winkler J, Jovanovic T, Bradley B : Emotional dysregulation and negative affect mediate the relationship between maternal history of child maltreatment and maternal child abuse potential. *J Fam Viol* 29 : 483-494, 2014
6. Fergusson DM, Grant H, Horwood LJ, Ridder EM : Randomized trial of the Early Start program of home visitation. *Pediatrics* 116 : 803-809, 2005
7. Olds DL, Sadler L, Kitzman H : Programs for parents of infants and toddlers : recent evidence from randomized trials. *Journal of Child Psychology and Psychiatry* 48 : 355-391, 2007
8. Hashimoto H, Tani H, Ninomiya T : Current status and issues in nationwide efforts for child abuse prevention from the perinatal stage : analysis of risk factors identified by maternity hospitals and maternal and child welfare programs. *Japanese Journal of Child Abuse and Neglect* 16(2) : 151-158, 2014 (in Japanese)
9. Kato Y, Satoh T, Yoshikawa K, Tsuzaki T : Risk assessment to identify severity and risk levels. *Japanese Journal of Child Abuse and Neglect* 2(1) : 79-86, 2000 (in Japanese)
10. Gerdes AC, Hoza B, Arnold LE, Pelham WE, Swanson JM, Wigal T, Jensen PS : Maternal depressive symptomatology and parenting behavior : Exploration of possible mediators.

Journal of Abnormal Child Psychology 35 : 705-714, 2007

11. Coyne LW, Thompson AD : Maternal depression, locus of control, and emotion regulatory strategy as predictors of preschoolers' internalizing problems. *Journal of Child Family Study* 20 : 873-883, 2011
12. Dixon L, Browne K, Hamilton-Giachritsis C : Risk factors of parents abused as children : a meditational analysis of the international continuity of child maltreatment (Part 1). *Journal of Child Psychology and Psychiatry* 46 : 47-57, 2005