Evaluation of a child abuse prevention program for unmarried mothers in South Korea: a single-case experimental design

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This article was adapted from thesis by Il Tae Park Tae in partial fulfillment of the requirements for the doctor's degree at Korea University.

Purpose: This study aimed to implement a child abuse prevention program and evaluate its effectiveness based on the Nursing Model of Resilience and Coping Skills Training Model for unmarried mothers during pregnancy and puerperium. **Methods:** This study had a prospective single-case, AB design with four repeated self-questionnaire measures and three observational measures. Seven unmarried mothers were provided with 10 sessions child abuse prevention program through individual visits from 32 to 34 weeks of pregnancy to six weeks after childbirth. The questionnaire was composed related to resilience, maternal stress, maternal attitude, parent-child interaction, child abuse potential. The observation was measured by video recording (total 16 times) the interaction of parent-child during feeding and analyzing it by three experts. Data were analyzed by Wilcoxon signed-rank test and Friedman's test. **Results:** Maternal attitude and parent-child interaction were statistically significantly improved after intervention compared to before intervention. However, maternal stress decreased after intervention compared to before intervention, but it was not statistically significant. Additionally, resilience and child abuse potential were not statistically significant. This program is partially effective in preventing child abuse by promoting parenting attitudes and parent-child interactions. **Conclusion:** This study focused on individual resilience and applied systematic intervention as coping skills training to prevent child abuse. This study is meaningful in that interventions were conducted through individual visits to unmarried mothers at high risk of child abuse, and the program was applied, including pregnancy and postpartum periods, to prevent child abuse early.

Keywords: Child abuse; Coping skills; Primary prevention; Resilience, psychological; Unmarried mothers

INTRODUCTION

Child abuse is a worldwide problem, and 300 million children aged 2 to 4 years regularly suffer from child abuse by parents and caregivers [1]. According to the Child Abuse Statistics in Korea, 53,932 child abuse cases were reported in 2021, which is 27.6% higher than in the previous year. In Korea, child abuse is mainly caused by parents (83.7%) [2]. Child abuse has long-term and short-term fatal consequences for children, especially in infants and toddlers, which can have a permanent negative impact on brain development and cause physical disabilities and mental trauma [3].

Previous studies have classified unmarried mothers as a high-risk group for child abuse because of social stigma, low

socioeconomic status, and loss of social support [4]. Being a parent of an unmarried mother is perceived as a major stressor that leads to sudden, unintended change in life. Unmarried mothers are more vulnerable to stress than normal parents due to financial difficulties, conflict with people around them caused by childbirth and parenting, and worries about their future [4]. In Korea, unmarried mothers experience negative emotions such as frustration, shame, anxiety, and depression due to social prejudice. They also become socially isolated by quitting their jobs, distancing themselves from their families and losing contact with their friends [5]. Social support and family functions affect abusive behavior by relieving or aggravating stress, and the risk of child abuse increases further when socially isolated or having problems with family relationships [6].

However, not all parents with risk factors for child abuse are child abusers due to differences in how individuals manage stressful situations. What should be noted here is individual resilience [7]. Resilience is the ability to effectively handle stressful situations and adapt positively when faced with a crisis [8]. Resilience is an important factor in preventing child abuse because it allows successful management of stress and increases the possibility of engaging in adaptive and approachable coping strategies rather than evasive coping strategies [9]. There is a method of coping skills training as an effective way to enhance the individual's resilience. Coping Skills Training is a professional and systematic cognitive-behavioral method that provides effective coping skills in stressful situations [10]. Coping Skills Training facilitates anger control for high-risk parents of child abuse and reduces negative parenting behavior by applying effective response methods to children's problem behavior [11]. In the first study, we developed a resilience improvement domain considering the four elements of Polk's nursing model of resilience [12] to prevent child abuse by unmarried mothers [13]. Based on the first study, the research aimed to apply and evaluate child abuse prevention programs with the coping skills training method.

Resilience is mentioned as a major factor in child abuse prevention programs because it functions to lower the likelihood of becoming a perpetrator of child abuse to socially and economically vulnerable parents [14]. The Georgia government's child abuse prevention program for high-risk groups of child abuse focuses on emotional regulation, thinking skills, and parental skills to improve parental resilience [15]. Easterbrooks et al. [14] compared the group that did not

commit child abuse despite having child abuse risk factors and the group that reported child abuse, emphasizing that resilience is an important factor in preventing child abuse.

As for the approach to child abuse prevention intervention, individual home visit programs are known to be the most effective. This is because home visits have good accessibility and can address individual issues [16]. In addition, 32 to 34 weeks of pregnancy is an important period of maternal role acquisition and attachment, and pregnancy is an important time to prevent child abuse that can detect and correct problems that may arise after delivery [17].

Therefore, in this study, intervention was conducted individual visit method to provide customized education considering unmarried mothers' situations and programs including pregnancy and postpartum periods were applied individually to prevent child abuse early.

1. Conceptual Foundation

This study consisted of elements to improve resilience to prevent child abuse [13] based on Polk's [12] Nursing Model of Resilience and applied Cameron and Meichenbaum's [10] coping skills training model as an intervention method.

This study basically assumes that efficient adaptation and recovery can be induced by improving resilience in stressful situations faced by unmarried mothers [18]. The use of healthy stress coping methods in stressful situations increases resilience [7,19], and coping skills training is a way to train effective coping skills that can be applied in stressful situations, and can induce desirable adaptation [20]. Coping skills training teaches parents how to deal with antecedent factors and outcomes more effectively, and is applicable to programs to prevent child abuse by allowing parents to act as desirable and adaptive models of behavior [11].

This study assumed that child abuse prevention programs improve the resilience of unmarried mothers, thereby reducing maternal stress, and improving desirable maternal attitude, and parent-child interaction. Unmarried mothers often show less interaction with their children because their attachment to them is unstable [21], and unstable parent-child interactions act as stressors, leading to the use of physical corporal punishment [22]. Negative maternal attitude and parent-child interaction are closely related to child abuse [23], and child abuse can be caused by inappropriate coping with stressful situations [22]. In particular, parenting stress can increase the mother's helplessness and aggression, resulting in

negative consequences such as child abuse and neglect [24]. Ultimately, we assume that this program will lead to positive adaptation and recovery that will reduce child abuse potential by adequately coping with stressful situations.

This study composes the content of child abuse prevention programs around four components of Polk's [12] Nursing Model of Resilience: philosophical pattern, dispositional pattern, situational pattern, and relational pattern. The application of intervention shall be carried out in accordance with the three stages of coping skills training: conceptualization, skill acquisition and rehearsal, and application [10].

This study's conceptual foundation and the relationship between the study variables are shown in Figure 1.

2. Aim

This study aims to apply and evaluate the child abuse prevention program based on coping skills training and the nursing model of resilience for unmarried mothers during pregnancy and puerperium.

METHODS

Ethical statements: This study was approved by the Institutional Review Board (IRB) of Korea university (IRB No. KU-IRB-16-153). Informed consent was obtained from all participants.

We explained that the results of the study would not be used anywhere but for research purposes. We assured complete anonymity and confidentiality of personal information. Additionally, they were informed that they could drop out of the study at any time without any consequences.

1. Design

This study had a prospective single-case, AB design with four times repeated self-questionnaire measures and three phases observational measures with each participant (Figure 2). A single-case design is an experimental research method of measuring and evaluating behavioral characteristics and behavioral changes of individuals with specific problems,
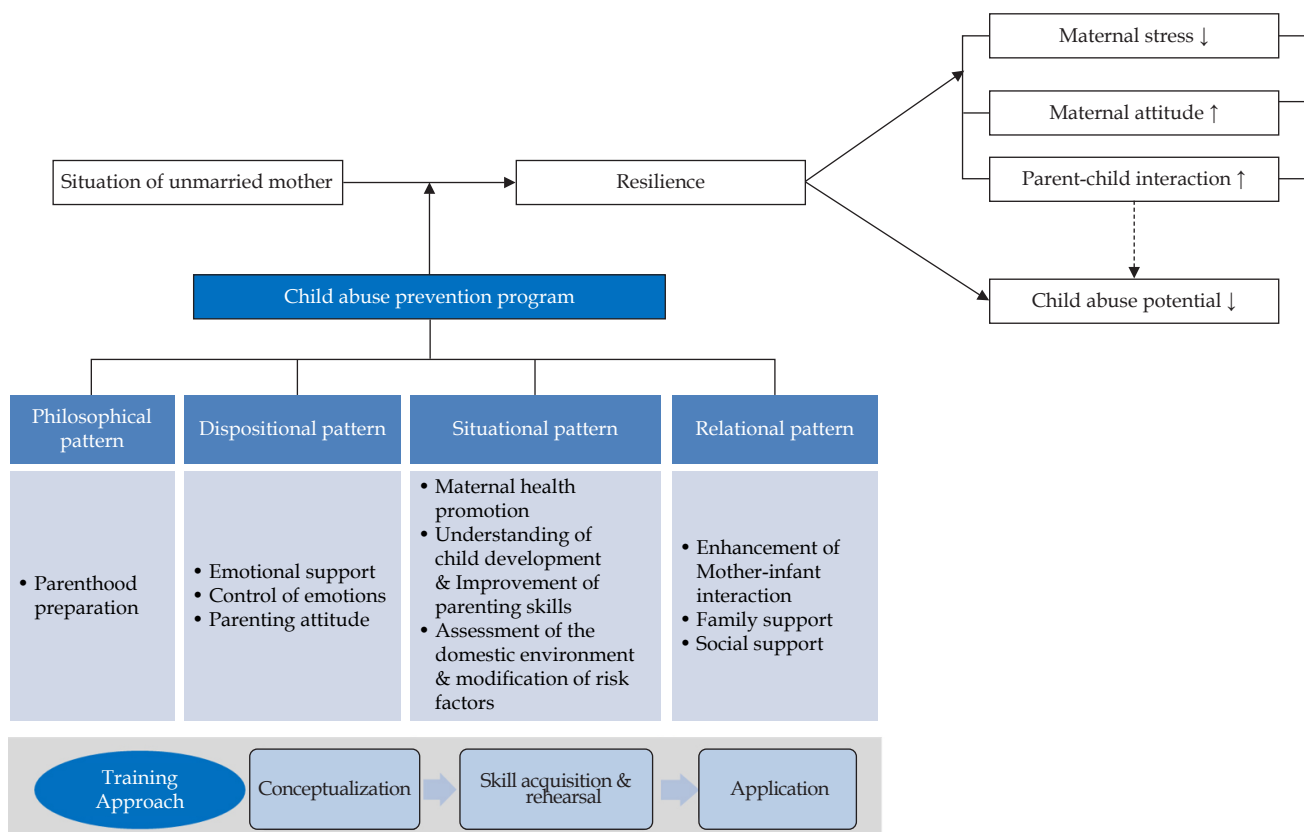

Figure 1. Conceptual framework and relationship with research variables.

Study week	Pre-childbirth			Post-childbirth				
	T_0	X_0	T_1	B_1	T_2	X_2	T_3	T_4
	1	2–3	4	1	2	3–5	6	7
Intervention		→(1–4th)				→(5–10th)		
Assessment								
Resilience	●		●		●		●	
Maternal stress	●		●		●		●	
Maternal attitude	●		●		●		●	
Child abuse potential	●						●	
Observation								
Parent-child interaction				→	→		→	

Pre-childbirth : T_0 (Pre-intervention), X_1 (Intervention), T_1 (Post-intervention)
Post-childbirth : B_1 (Baseline), T_2 (Pre-intervention), X_2 (Intervention), T_3 (Post-intervention), T_4 (Post-intervention)

Figure 2. Data collection and progress procedure.

and is a research method used when it is necessary to deal with a small number of cases with practical problems in depth [25]. The reporting of this study was based on the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting guidelines [26].

2. Participants

The participants were recruited from two facilities for unmarried mothers in Seoul from October 2018 to July 2019. The targets were unmarried mothers who were 32 to 34 weeks pregnant, when they decided to raise their children were included in the study. Unmarried women were selected based on who had not given birth before, were pregnant for 32-34 weeks, and planned to raise their children. Eight people participated in the program, but one of them was dropped due to early contractions. Therefore, seven participants finally participated in this study.

3. Intervention

This program consists of four pre-childbirth and six post-childbirth education sessions. The content is organized in terms of four patterns of Polk's [12] resilience model: philosophical pattern (one session), dispositional pattern (three sessions), situational pattern (three sessions), and relational pattern (three sessions) [13]. Park and Oh [13] divided the components for each pattern into 10 domains and 24 subdomains. The intervention consisted of lowering the risk factors of abuse in unmarried mothers and appropriately dealing with stress cases that could increase the risk of abuse. The main contents are parenthood preparation, control of emotions, parenting skill and enhancement of mother-infant attachment.

The program applied the three-step approach of the coping skills training model of Meichenbaum and Cameron [10]: conceptualization, skill acquisition and rehearsal, and application. During the conceptualization phase, the participants' cognitive, emotional, and physiological factors were clarified through interviews to identify the participants' problems. Second, in the skills acquisition and rehearsal phase, the participants were required to practice adaptive skills related to problem-solving to acquire the appropriate methods and skills. In the final application phase, an example of a problem situation that could actually occur was given to the participants, and the participants were asked to apply the acquired problem-solving skill to that situation. Intervention was applied individually according to the situation and request of the subjects.

4. Measure

1) Resilience

Resilience was measured with a Korean version of the Conner-Davidson Resilience Scale developed by Connor and Davidson [27]. This tool includes items such as control, commitment, and change viewed as challenge. The tool totals 25 items, consisting of a five-point scale ranging from 0 points to 5 points. The full range is from 0 to 100, with higher scores reflecting greater resilience. The Cronbach's alpha was .947.

2) Maternal stress

Maternal stress was measured by Chun [28]. This tool consists of questions such as 'feeling frustrated' and 'feeling nervous' when looking back on the role of parents. Each item ranges from 1 point to 4 points, and the overall score ranges from 7 points to 28 points, with higher scores reflecting higher stress. The Cronbach's alpha was .911.

3) Maternal attitude

The maternal attitude was measured as a tool by Han and Park [29]. In this study, 20 of the 23 items of this tool were used except for 3 breastfeeding items. Each question consists of questions that measure thoughts on parenting, such as "a baby has his or her personality from birth" and "It is better to hug or take care of a baby whenever he or she cries." Each item ranges from 1 point to 5 points, and the overall score ranges from 20 points to 100 points. A higher score means a higher degree of agreement on positive statements relating to infant rearing. The Cronbach's alpha was .838.

4) Parent-child interaction

The parent-child interaction was measured on the Nursing Child Assessment Feeding Scale of Barnard [30]. The tool measures parent-child interaction in feeding through observation, consisting of a total of 76 items. The score is the sum of "yes" for each question consisting of "yes" and "no," and a higher score means a higher interaction level of mother and infant. The video data (total 16: baseline 5, intervention 6, post-test 5 times) taken with an action-cam in the feeding situation (breast and bottle feeding) was measured by a qualified expert, researcher, and research assistant. The qualified expert, who was trained and certified by Nursing Child Assessment Satellite Training (NCAST), supervised the researcher and research assistant.

A video of approximately 20 minutes of each individual contains the entire process from the start to the end of the feeding. The researcher, qualified expert, and research assistant divided 25 images each and analyzed them without duplication. The kappa analysis tested the reliability between the measurers. The kappa coefficient between researcher and qualified expert was .915, and the kappa coefficient between researcher and research assistant was .889. The Cronbach's alpha was .833.

5) Child abuse potential

Child abuse potential was measured using a 77-item child physical abuse scale of the 160 Child Abuse Potential Inventory (CAPI) developed by Milner [31]. This tool was translated and modified by Ahn et al. [32]. CAPI measure "yes" and "no," whether they agree or disagree with each question. The overall score ranges from 0 points to 483 points, and a higher score means a higher degree of the potential of child abuse. Each item's weight is between a minimum of 1 point and a maximum of 23 points. The Cronbach's alpha was .868.

5. Procedure

Specific procedures are as follows (Figure 2).

1) Pre-childbirth

The pre-childbirth phase begins between 32 and 34 weeks of pregnancy and consists of T_0 (pre-test), X_1 (intervention), and T_1 (post-test). In T_0 (pre-test) and T_1 (post-test), surveys and interviews were conducted to assess child abuse risk factors. In X_1 (intervention), four educations consisting of 40 minutes per session were provided.

2) Post-childbirth

The post-childbirth phase consists of B_1 (baseline), T_2 (pre-test), X_2 (intervention), T_3 (post-test), and T_4 (post-test). In B_1 (baseline), X_2 (intervention), and T_4 (post-test), parent-child interaction variables as observation were measured. In T_2 (pre-test) and T_3 (post-test), surveys and interviews were conducted. In X_2 (intervention), six educations were provided.

6. Data Analysis

The collected data were analyzed by quantitative analyses. Quantitative analysis was conducted using the statistical program IBM SPSS Statistics 24.0 (IBM Corp.) and a visual anal-

ysis was conducted on graphical data. Data were analyzed by Wilcoxon signed-rank test and Friedman's test, a nonparametric method of analyzing repeated measured data that does not follow normal distribution [33]. Resilience, maternal stress, maternal attitude and parent-child interaction were analyzed by Friedman's test. The post-hoc analysis was verified using the Bonferroni Correction Method. Child abuse potential was analyzed by Wilcoxon signed-rank test.

RESULTS

1. Participants' Characteristics

There were a total of seven participants; three in teens, three in 20s, and one in 30s, with three graduating from middle school and four graduating from high school.

The CAPI score, measured before the intervention, was the highest at 246 points for participant G, followed by 226 points for participant D and 201 points for participant A. All three were diagnosed and treated for general anxiety disorder and depression. Participant A and D experienced neglect in childhood and participant G was physically abused. Milner [31] classifies CAPI 166 points and above as a high-risk group of child abuse. The general characteristics of the participant are shown in Table 1.

2. Quantitative Analysis Results

The statistical analysis results are as follows (Table 2, Figure 3).

1) Resilience

Resilience increased from T_0 60.86 to T_1 65.86, followed by T_2 64.00 and T_3 63.71. However, the effect of this program on resilience was not statistically significant. By participant, the T_3 resilience score was higher than T_0 in all participants ex-

cept participant G.

2) Maternal stress

Maternal stress decreased from T_0 12.43 to T_1 11.71 and continued to decrease to T_2 11.57 and T_3 10.29. However, it was not statistically significant. The scores for maternal stress of participants A, B, and C were the highest in T_1 but decreased after childbirth. Participants D and G had the highest maternal stress scores at the time of T_2 after birth, and participant E had little change in the maternal stress score at the time of measurement.

3) Maternal attitude

The effect of this programs on maternal attitude was statistically significant ($\chi^2 = 8.631$, $p = .035$). The maternal attitude was 65.71 for T_1, 67.71 for T_2, and 66.71 for T_3. By participant, the T_3 score was higher than T_0 in all participants except participant G.

4) Parent-child interaction

The effect of this programs on parent-child interaction was statistically significant ($\chi^2 = 8.54$, $p = .008$). Parent-child interaction continued to increase from B_1 33.14 to X_2 38.79 and T_4 45.19. Parent-child interaction increased continuously in participants A, B, D, and E. However, there were no significant changes in the parent-child interaction scores for participants C (B_1 42.80, X_2 42.00, T_4 42.80) and F (B_1 32.00, X_2 35.67, T_4 35.50).

5) Child abuse potential

Child abuse potential decreased from T_0 144.71 to T_3 115.14 but was not statistically significant. By participant, the potential score for child abuse in participants A, C, D, and G was all lower at T_3 than T_0. However, participants B, E, and F had an increase in child abuse potential scores at the time of T_3 over T_0.

Table 1. General Characteristics of Participants (*N*=7)

Participant	Age (year)	Educational level	Experience of child abuse (type)	Health problem (diagnosis)	CAPI score
A	33	High school	Neglect	Nervousness	201
B	23	High school	-	-	83
C	20	High school	-	-	44
D	18	Middle school	Neglect	Bipolar disorder, Generalized anxiety disorder	226
E	18	Middle school	-	-	68
F	18	Middle school	Verbal abuse	-	145
G	27	High school	Physical abuse	Generalized anxiety disorder, Depression	246

CAPI, Child Abuse Potential Inventory.

Table 2. Scores of Variables

Variables	Pre-childbirth T0(a) M±SD	Pre-childbirth X1 M±SD	Pre-childbirth T1(b) M±SD	Post-childbirth B1(c) M±SD	Post-childbirth T2(d) M±SD	Post-childbirth X2(e) M±SD	Post-childbirth T3(f) M±SD	Post-childbirth T4(g) M±SD	χ^2	p*	Post hoc
Resilience	60.86±13.26		65.86±18.38		64.00±14.33		63.71±15.54		3.44	.345	
Maternal stress	12.43±3.95		11.71±4.27		11.57±3.74		10.29±2.43		2.65	.470	
Maternal attitude	62.29±4.79		65.71±4.89		67.71±3.99		66.71±5.59		8.63	.035*	a<d
Child abuse potential	144.71±81.52						115.14±54.13		0.68	.578	
Parent-child interaction				33.14±6.36		38.79±6.55		45.19±6.90	8.54	.008*	c<g

*p<.05; M, mean; SD, standard deviation; Pre-childbirth: T$_0$ (Pre-intervention), X$_1$ (Intervention), T$_1$ (Post-intervention); Post-childbirth: B$_1$ (Baseline), T$_2$ (Pre-intervention), X$_2$ (Intervention), T$_3$ (Post-intervention), T$_4$ (Post-intervention). Post hoc: a=T$_0$, b=T$_1$, c=B$_1$, d=T$_2$, e=X$_2$, f=T$_3$, g=T$_4$.

DISCUSSION

This study was conducted to test the effectiveness of a child abuse prevention program based on the nursing model of resilience and coping skills training. This study consisted of 10 sessions to improve the resilience of unmarried mothers [13], and applied child abuse programs to unmarried mothers based on the coping skills training model.

Existing child abuse prevention programs were mainly implemented in terms of improving the health of individual parents and improving the relationship between parents and children [1]. However, there is a lack of child abuse prevention programs for unmarried mothers only and child abuse prevention studies focusing on improving individual resilience [17]. Unmarried mothers are different from single parents due to bereavement or separation [13]. They are more likely to be unprepared to be parents due to sudden pregnancy, feelings of anger and depression toward their boyfriends, and decreasing and shrinking self-esteem because of social stigma [13]. Therefore, it is considered important that the child abuse prevention program of unmarried mothers can develop resilience to effectively deal with stress situations and show desirable recovery and adaptation. This program is meaningful in that it consists of interventions with elements that improve the resilience of unmarried mothers and applies coping skills training as an intervention principle to enhance the specificity of the application of the program.

The discussion based on the main findings is as follows. The child abuse prevention program had significantly affected the promotion of maternal attitude and parent-child interaction of unmarried mothers. The previous studies have reported that child abuse programs, which focus on child-rearing knowledge education and providing child-rearing skills, positively impact maternal attitude [34]. Khosravan et al. [34] support the results of this study by reporting that positive parenting attitudes increased and abuse behavior decreased significantly compared to the control group when providing parenting education for mothers in high-risk child abuse for eight weeks.

The previous studies have also reported that programs with video feedback of mother-child interaction and maternal sensitivity improvement have a positive effect on parent-child interaction in high-risk groups of child abuse [35]. Moss et al. [35] reported that when video feedback programs on mother-child interaction were provided for eight weeks for high-risk mothers of child abuse with children aged 1 to 5
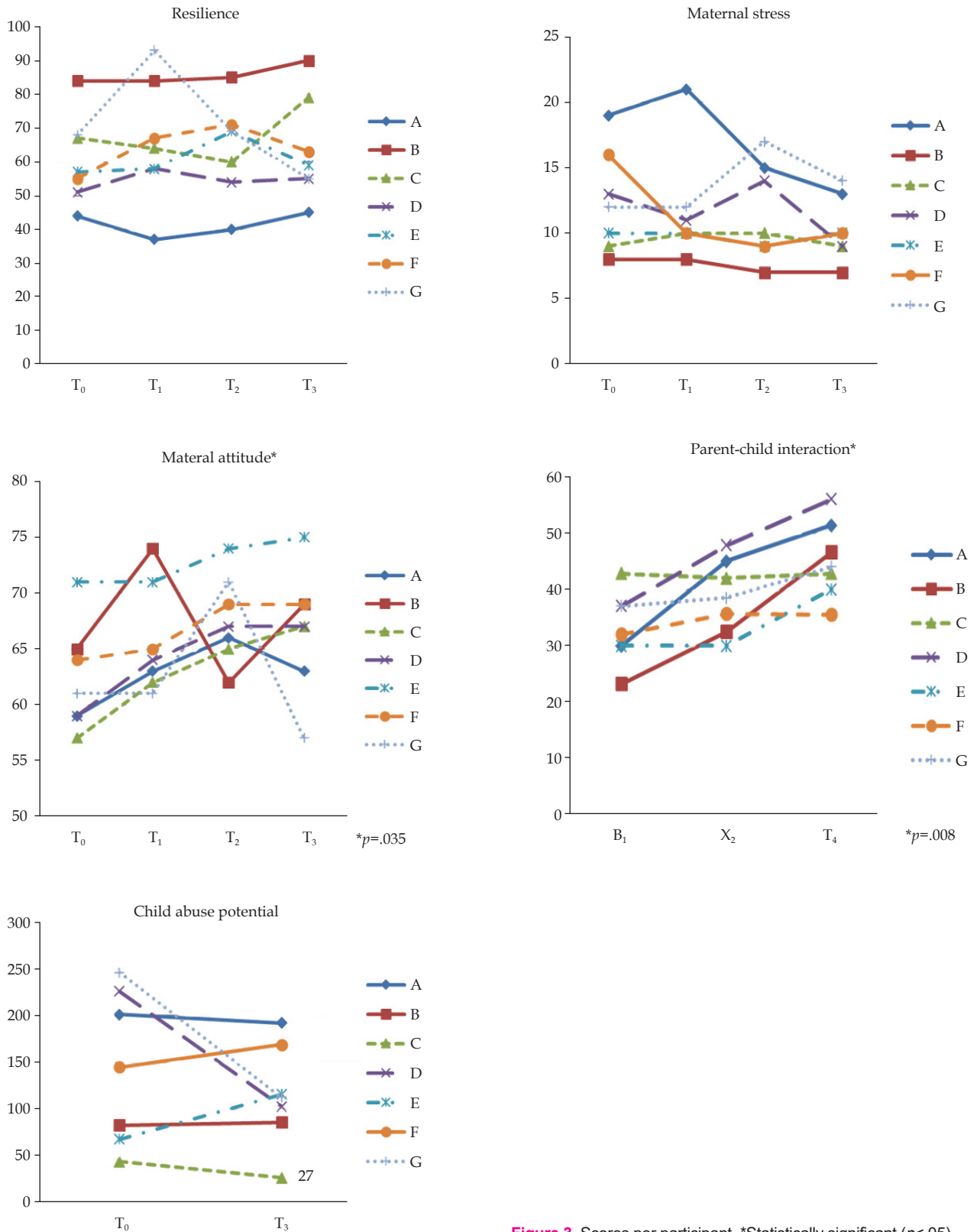
Figure 3. Scores per participant. *Statistically significant (*p*<.05).

years, maternal sensitivity and child stability affection increased, and the quality of mother-child interaction improved. Thomas et al. [36] reported that providing a parent-child interaction program to mothers in high-risk child abuse groups for 12 weeks to increase maternal sensitivity to children's signals is effective not only in enhancing parent-child interaction but also in reducing child abuse potential. Our program is a useful program in that it has shown statistical significance in promoting positive parenting attitudes and parent-child interactions, which are mentioned as essential factors in preventing child abuse of high-risk mothers.

However, the child abuse prevention program's effect on resilience in this study was not statistically significant. Given that resilience is a concept that can be defined over a long period and is gradually formed throughout the entire life process [19], it is thought that the intervention period of fewer than three months in this study would not have been sufficient for the enhancement of resilience to be significant. In addition, resilience is a response to a crisis that occurs between individuals and the environment, which varies depending on the situation and the resources available [9]. The changes in resilience shown in this study are also believed to have been caused by individual environmental factors. In particular, economic factors and conflict factors with boyfriends were difficult to control, and changes existed at different measurement points. Subject G's resilience increased at the time of T_0 and T_1 before childbirth, but the resilience decreased significantly at T_2 and T_3 after childbirth, and it is thought that the change of mind of the trusted boyfriend greatly influenced the resilience. To minimize external influences, such as family and boyfriend relationships, future studies should include them as factors in the intervention. Additionally, the effectiveness of the program through comparison with the control group needs to be measured. It is also necessary to expand the application period of the program to be studied repeatedly.

The program's effects on maternal stress, and child abuse potential were not also statistically significant. Existing studies emphasize resilience as an important prerequisite to reducing the potential of child abuse in high-risk groups [9]. However, in this study, it is believed that the above variables did not have significant effects because the improvement in the resilience of unmarried mothers was not significant as a leading factor in reducing child abuse potential.

In this study, 4 out of 7 subjects had a lower child abuse

potential score after intervention than before intervention, but the remaining 3 increased. In a study by Baggett et al. [37], when the coaching intervention program was applied to the high-risk group of child abuse with a child abuse potential score of 166 or higher and the low-risk group with a child abuse potential score of less than 166, a significant reduction in the potential score of child abuse was found in the high-risk group with a high child abuse potential score. In this study, the high-risk group with a child abuse potential score of 166 or higher before intervention also had a decrease in scores after intervention. However, the participants with a child abuse potential score of 166 or less had higher scores after the intervention. This may be because the items of the child abuse potential tool included psychological condition factors and were thus influenced by external elements. Since the CAPI comprised 77 questions, the participants, especially those with a lack of sleep and those who are tired, may have had difficulties concentrating and accurately checking in at the early stages of childbirth.

In addition, the reduction in limited maternal stress is thought to be related to the timing of the measurement. The measurement period of this study is the end of pregnancy and postpartum period, with the greatest changes in women's lives, during which women experience significant challenges and stress [38]. Especially for primigravida, parental role stress increases further during this period [38]. Considering that the end of pregnancy and postpartum period are periods of high change and increased stress, although there was no statistical significance, it can be considered that the reduction in maternal stress during this period was the effect of this program.

This study is meaningful in that it focuses on individual resilience to prevent child abuse by unmarried mothers. In addition, this program is meaningful in that it is a one-on-one intervention considering the individual situation of single mothers and that it has increased the accessibility of participants through individual visits. However, there is a limitation in that the number and duration of interventions could not be differentiated according to the individual characteristics of the subject and the needs. In particular, it is thought that the above limitations of the study affect the research results in that variables such as resilience have large individual differences and are influenced by the environment.

Despite the above limitations, it is of great significance that it can be prevented before child abuse occurs by providing the required intervention to high-risk groups of child abuse.

This study can be considered important that it provided a basis for a strategy to prevent child abuse by unmarried mothers with babies for six weeks after childbirth from pregnancy.

CONCLUSION

The child abuse prevention program in this study has been proven to be partially effective in preventing child abuse because it promotes maternal attitude and parent-child interaction. However, the end of pregnancy is the period of puerperium and many changes; it is difficult to distinguish between changes according to the characteristics of timing and changes due to intervention. It is necessary to look at the effectiveness of intervention by distinguishing change through comparison with the control group, noting the timing. In addition, it is necessary to study it by increasing the number of participants and the measurement period.

In the future, the child abuse prevention program of this study can be used not only for unmarried mothers living in facilities but also for unmarried mothers staying at home. In addition, based on the results of this study, the application period of the program should be expanded to develop and apply detailed programs for each stage of child development.

ARTICLE INFORMATION

Authors' contribution

Conceptualization: all authors; Data collection, Formal analysis: Il Tae Park; Writing-original draft: Il Tae Park; Writing-review and editing: all authors; Final approval of published version: all authors.

Conflict of interest

Won-Oak Oh has been an editor of *Child Health Nursing Research* since 2022. She was not involved in the review process of this article. No existing or potential conflict of interest relevant to this article was reported.

Funding

None.

Data availability

Please contact the corresponding author for data availability.

Acknowledgements

None.

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REFERENCES

1. World Health Organization (WHO). Child maltreatment [Internet]. 2022 [cited 2022 September 19]. Available from: https://www.who.int/news-room/fact-sheets/detail/child-maltreatment
2. Ministry of Health & Welfare. Child abuse & neglect Korea 2021. Sejong: Ministry of Health and Welfare; 2022 Aug. Report No.: 11-1352000-002541-01.
3. Widom CS. Longterm consequences of child maltreatment In: Korbin JE, Krugman RD, editors. Handbook of child maltreatment. Springer; 2014. p. 225-247.
4. Berger LM, Font SA, Slack KS, Waldfogel J. Income and child maltreatment in unmarried families: evidence from the earned income tax credit. Review of Economics of the Household. 2017;15(4):1345-1372. https://doi.org/10.1007/s11150-016-9346-9
5. Byun SJ, Kim YK, Choi IS, Kim JY, Choi SJ, Kim HJ. Childbirth and child-rearing in unwed mothers' families and policy implications. Sejong: Korea Institute for Health and Social Affairs; 2019 Dec. Report No.: 2019-20.
6. Tucker MC, Rodriguez CM. Family dysfunction and social isolation as moderators between stress and child physical abuse risk. Journal of Family Violence. 2014;29:175-186. https://doi.org/10.1007/s10896-013-9567-0
7. Chung MS. Resilience, coping methods, and quality of life in middle-aged women. Journal of Korean Academy of Psychiatric and Mental Health Nursing. 2011;20(4):345-354.
8. Tusaie K, Dyer J. Resilience: a historical review of the construct. Holistic Nursing Practice. 2004;18(1):3-8; quiz 9-10. https://doi.org/10.1097/00004650-200401000-00002
9. Rutter M. Resilience as a dynamic concept. Development and Psychopathology. 2012;24(2):335-344. https://doi.org/10.1017/

S0954579412000028

10. Meichenbaum D, Cameron R. Stress inoculation training : toward a general paradigm for training coping skills. In: Meichenbaum D, Jaremko ME, editors. Stress reduction and prevention. Springer nature; 1989. p. 115-154.

11. Hupp SDA, Reitman D, Jewell JD. Cognitive-behavioral theory. In: Hersen M, Gross AM, editors. Handbook of clinical psychology, Vol. 2: children and adolescents. John Wiley & Sons, Inc; 2008. p. 263-287.

12. Polk LV. Toward a middle-range theory of resilience. Advances in Nursing Science. 1997;19(3):1-13. https://doi.org/10.1097/00012272-199703000-00002

13. Park IT, Oh WO. Development of domains for improving the resilience of unmarried mothers to prevent child abuse. Journal of East-West Nursing Research. 2020;26(2):109-117. https://doi.org/10.14370/JEWNR.2020.26.2.109

14. Easterbrooks MA, Chaudhuri JH, Bartlett JD, Copeman A. Resilience in parenting among young mothers: Family and ecological risks and opportunities. Children and Youth Services Review. 2011;33(1):42-50. https://doi.org/10.1016/j.childyouth.2010.08.010

15. Center for the study of social policy. Strengthening families [Internet]. 2024 [cited 2024 June 1]. Available from: https://cssp.org/our-work/project/strengthening-families/

16. Filene JH, Kaminski JW, Valle LA, Cachat P. Components associated with home visiting program outcomes: a meta-analysis. Pediatrics. 2013;132(Suppl 2):S100-S109. https://doi.org/10.1542/peds.2013-1021H

17. Olds DL, Kitzman H, Knudtson MD, Anson E, Smith JA, Cole R. Effect of home visiting by nurses on maternal and child mortality: results of a 2-decade follow-up of a randomized clinical trial. JAMA Pediatrics. 2014;168(9):800-806. https://doi.org/10.1001/jamapediatrics.2014.472

18. Smith C, Carlson BE. Stress, Coping, and Resilience in Children and Youth. Social Service Review. 1997;71(2):231-256.

19. Marriott C, Hamilton-Giachritsis C, Harrop C. Factors promoting resilience following childhood sexual abuse: a structured, narrative review of the literature. Child Abuse Review. 2014;23(1):17-34. https://doi.org/10.1002/car.2258

20. Lehrer PM, Woolfolk RL. Principles and practice of stress management. 4th ed. Guilford Press; 2021. p. 1-672.

21. Lawson M, Valentino K, McDonnell CG, Speidel R. Maternal attachment is differentially associated with mother-child reminiscing among maltreating and nonmaltreating families. Journal of Experimental Child Psychology. 2018;169:1-18. https://doi.org/10.1016/j.jecp.2017.12.005

22. Chiocca EM. American parents' attitudes and beliefs about corporal punishment: an integrative literature review. Journal of Pediatric Health Care. 2017;31(3):372-383. https://doi.org/10.1016/j.pedhc.2017.01.002

23. Guterman K. Unintended pregnancy as a predictor of child maltreatment. Child Abuse & Neglect. 2015;48:160-169. https://doi.org/10.1016/j.chiabu.2015.05.014

24. Kim MY, Park DY. Parenting stress, depression and verbal abuse of infant's mothers. Journal of Korean Academy of Child Health Nursing. 2009;15(4):375-382. https://doi.org/10.4094/jkachn.2009.15.4.375

25. Christensen LB, Johnson RB, Turner LA. Research methods, design, and analysis. 13th ed. Pearson; 2021. p. 1-544.

26. von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP; STROBE Initiative. Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. British Medical Journal. 2007;335(7624):806-808. https://doi.org/10.1136/bmj.39335.541782.AD

27. Connor KM, Davidson JR. Development of a new resilience scale: the Connor-Davidson Resilience Scale (CD-RISC). Depression and Anxiety. 2003;18(2):76-82. https://doi.org/10.1002/da.10113

28. Chun SY. Relationship between stress levels in mothers of disabled children and child's dependence in activities of daily living [master's thesis]. Seoul: Sookmyung Women's University; 1984. p. 1-53.

29. Han KJ, Park YS. A study on the effects of the Lamaze prophylaxis. Journal of Nurses Academic Society. 1985;15(2):16-24. https://doi.org/10.4040/jnas.1985.15.2.16

30. Barnard KE. Nursing child assessment satellite training project: learning resource manual. University of Washington; 1978. p. 1-50.

31. Milner JS. An interpretive manual for the child abuse potential inventory. Psytec Inc.; 1990. p. 1-66.

32. Ahn HY, Kim SJ, Ko JA. Chlid abuse in high-risk group. Journal of Korean Academy of Nursing. 2002;32(6):775-783. https://doi.org/10.4040/jkan.2002.32.6.775

33. Field A. Discovering statistics using SPSS. 3rd ed. Sage Publications; 2009. p. 539-583.

34. Khosravan S, Sajjadi M, Moshari J, Barzegar Shoorab Sofla F. The effect of education on the attitude and child abuse behaviors of mothers with 3-6 year old children: a randomized controlled trial study. International Journal of Community Based Nursing and Midwifery. 2018;6(3):227-238.

35. Moss E, Dubois-Comtois K, Cyr C, Tarabulsy GM, St-Laurent D, Bernier A. Efficacy of a home-visiting intervention aimed at improving maternal sensitivity, child attachment, and behavioral outcomes for maltreated children: a randomized control trial. Development and Psychopathology. 2011;23(1):195-210. https://doi.

org/10.1017/S0954579410000738

36. Thomas R, Zimmer-Gembeck MJ. Accumulating evidence for parent-child interaction therapy in the prevention of child maltreatment. Child Development. 2011;82(1):177-192. https://doi.org/10.1111/j.1467-8624.2010.01548.x

37. Baggett K, Davis B, Feil E, Sheeber L, Landry S, Leve C, et al. A randomized controlled trial examination of a remote parenting intervention: engagement and effects on parenting behavior and child

abuse potential. Child Maltreatment. 2017;22(4):315-323. https://doi.org/10.1177/1077559517712000

38. Sacristan-Martin O, Santed MA, Garcia-Campayo J, Duncan LG, Bardacke N, Fernandez-Alonso C, et al. A mindfulness and compassion-based program applied to pregnant women and their partners to decrease depression symptoms during pregnancy and postpartum: study protocol for a randomized controlled trial. Trials. 2019;20(1):654. https://doi.org/10.1186/s13063-019-3739-z