

ORIGINAL ARTICLE

Digital Social Support and Child Safety: Evaluating Virtual Parenting Education as a Lifestyle Intervention for Preventing Violence Against Children**Razieh Khosrorad , PhD**

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Abstract**Background and Objective:** Violence against children is a major global health concern, and parenting education programs are designed to improve parental knowledge, attitudes, and caregiving practices. During the COVID-19 pandemic, virtual educational approaches emerged as a feasible alternative to in-person interventions. This study aimed to evaluate the effectiveness of a virtual parenting education program on mothers' attitudes toward violence against children.**Materials and Methods:** This analytical interventional study was conducted among mothers referring to Sabzevar health centers for child-related concerns. A total of 48 mothers were recruited through simple random sampling and allocated to intervention (n=27) and control (n=31) groups. Data were collected using the Adult-Adolescent Parenting Inventory (AAPI), and a researcher-designed self-report questionnaire assessing maternal behavior and performance toward the child. Statistical analyses were performed using paired and independent t-tests in SPSS at a 95% confidence level.**Results:** Following the intervention, the intervention group demonstrated a significant increase in mean attitude scores compared with baseline ($P = 0.001$). Post-intervention comparisons also revealed significant differences between the intervention and control groups in overall attitude scores and in each attitude subscale ($P = 0.001$). Although the mean behavior score in the intervention group increased after the intervention, the change was not statistically significant.**Conclusion:** Virtual parenting education improved mothers' attitudes toward violence against children. Virtual interventions seem to serve as an effective alternative to face-to-face education, particularly during public health emergencies such as the COVID-19 pandemic.**Keywords:** Child Abuse, Parents, Mothers, Parenting, Attitude, Health Education, Internet-Based Intervention, COVID-19, Women.

Introduction

Violence against children represents a significant global social and public health challenge (1). As a fundamental social institution, the family is instrumental in ensuring individual well-being and societal continuity. Beyond its biological and physical roles, the family environment serves as the primary setting for emotional, psychological, and personality development, preparing individuals to fulfill their future social roles. Historically, the structure of the family has evolved in response to various socioeconomic developments. These transitions have frequently precipitated conflicts among family members, ranging from mild disagreements to severe forms of domestic violence, driven by an interplay between external stressors and internal family dynamics (2). Multiple studies indicate a strong correlation between intra-familial conflicts and wider social instabilities (3, 4).

The COVID-19 pandemic necessitated prolonged periods of home quarantine, which, combined with heightened parental stress and reduced social interaction, exacerbated behavioral problems such as aggression and intergenerational conflict (5). This situation is particularly critical for mothers, who often bear the primary responsibility for their children's care and education. During the pandemic, social isolation, a necessary measure to curb viral transmission, compounded individual and collective vulnerabilities while simultaneously restricting access to familiar support systems (6). These isolation measures acted as potent catalysts for stress, creating an environment that elevated the risk of domestic violence (5).

The WHO defines child abuse and neglect as any form of physical, emotional, or sexual maltreatment, or neglect, that results in actual or potential harm to the health, development, or dignity of a child under the age of 18 by a caregiver (7). Currently, an estimated three million children are subjected to abuse annually (8). The etiology of child maltreatment is multifactorial, involving

individual parental factors (such as depression and substance abuse) family dynamics, the child's own behavioral challenges, and broader social stressors like poverty and societal pressure (9).

Addressing child maltreatment has become a priority for health planners, researchers and policymakers globally, particularly within developing nations like Iran (10). Given evidence confirming a rise in child abuse rates during the pandemic (11–14), identifying effective mitigation strategies is imperative. Parenting education is recognized as a vital approach to empowering parents, enabling them to better meet their children's mental health needs (15).

Parenting is an inherently challenging task, yet few parents receive formal preparation for it. While the birth of a child is a source of joy, it also introduces significant levels of anxiety and stress into the family unit (16). Excessive stress, often stemming from a lack of knowledge regarding developmental milestones, can lead to parental depression, anxiety, and the adoption of aggressive child-rearing practices (17). Parenting skills, which encompass knowledge of child development, age-appropriate expectations, effective management of inappropriate behaviors, and the ability to listen and communicate decisively, form the core of healthy child-rearing (18). Educational interventions can alleviate parental stress and enhance self-efficacy by providing necessary support and fostering a sense of competence in the parental role (19).

Prior research consistently demonstrates that parenting education can positively influence parental attitudes and reduce the incidence of child abuse (20–23). However, some studies have noted barriers to traditional in-person programs, including low parental participation rates (24), and others emphasize the need for further investigation into diverse delivery modalities (25). In light of these gaps, the present study aims to evaluate the impact of a group-based virtual parenting education program on mothers' attitudes and behaviors toward violence against children.

Materials and Methods

Study Design and Setting

This study employed an analytical randomized clinical trial design with a pre-test-post-test control group structure. The target population consisted of mothers referred to health centers in Sabzevar, Iran, due to child-related behavioral challenges or documented reports of child maltreatment. Ethical approval was obtained, and informed consent was secured from all participants.

Sampling and Randomization

The required sample size was calculated based on previous findings, aiming for a 95% confidence level and 80% statistical power. Accounting for an estimated attrition rate, 80 mothers were initially recruited via simple random sampling. After initial screening and orientation in a dedicated WhatsApp group, 69 mothers provided informed consent and completed the baseline assessment. Subsequently, participants were randomly allocated into two groups: the intervention group ($N=35$) and the control group ($N=34$). Following the study period, the final analysis included 27 mothers in the intervention group and 31 in the control group, due to attrition resulting from irregular attendance or withdrawal.

Inclusion and Exclusion Criteria

Inclusion criteria were: mothers of children aged 2–7 years; primary caregivers; absence of diagnosed psychiatric disorders in mother or child; and a minimum educational level of a primary school diploma. Participants were excluded if they were members of the healthcare workforce or failed to attend training sessions consistently.

Intervention

The intervention group participated in an eight-session virtual parenting program (70 minutes per session, once weekly). The curriculum was based on the standardized parenting skills training package developed by

the Iranian Ministry of Health and Medical Education, supervised by specialist psychologists. Sessions were conducted via Adobe Connect, with supplemental educational materials, brochures, and peer-discussion forums provided through WhatsApp. The control group received no intervention. Follow-up assessments were conducted one month after the completion of the program.

Table 1. Contents of the Virtual Parenting Education Sessions

Session number	Session schedule
First session	Introduction, familiarization with virtual sessions, basic principles of training, and pre-test
Second session	Education on the principles of child behavior management for parents
Third session	Causes of children's behavioral problems and positive communication
Fourth session	Reinforcement of children's desirable behaviors
Fifth session	Setting rules and providing recommendations
Sixth session	Managing inappropriate behaviors and effective communication skills with children
Seventh session	Preparation for managing difficult situations and developing future plans
Eighth session	Continuation of effective communication skills training with children and conclusion of the program

Instruments

Data were collected using a three-part survey instrument:

1. Demographic Questionnaire: Assessing variables such as maternal age, education, and occupation.
2. Adult-Adolescent Parenting Inventory (AAPI-2): A 32-item scale developed by Bavolek (1984) to evaluate parental attitudes regarding child abuse (26, 27). The Persian version, validated by Parsa et al. (28), measures four constructs: lack of empathy, value of corporal punishment, inappropriate expectations, and parent-child role reversal. Higher scores indicate more positive /

appropriate attitudes. In the current study, Cronbach's alpha for the overall scale was 0.79, indicating high internal consistency (29).

3. **Researcher-Made Behavioral Questionnaire:** A self-report tool assessing maternal behavior and performance over the preceding month. Content validity was established via Content Validity Ratio (CVR > 0.75) and Content Validity Index (CVI > 0.79) assessments by a panel of eight psychologists. Cronbach's alpha for this instrument was 0.69.

Ethical considerations

This study was approved by the Ethics Committee of Islamic Azad University of Sabzevar (Ethics Code: IR.IAU.S.REC.1400.004).

Statistical Analysis

Data were analyzed using SPSS 21. Descriptive statistics, paired t-tests (within-group comparisons), and independent t-tests (between-group comparisons) were performed, at statistical significance $P < 0.05$.

Results

The study population comprised 58 mothers (27 in the intervention group and 31 in the control group). As shown in Table 2, there were no statistically significant differences in demographic characteristics, including maternal age, child's age, education level, and the child's sex, between the intervention and control groups at baseline ($P > 0.05$).

Table 2. Comparison of demographic variables in the intervention and control groups

Variables	Control group Mean±SD	Intervention group Mean±SD	P value
Mother's age (years)	27.55±2.36	28.35±2.16	0.08
Child's age (years)	4.65±3.17	3.75±4.165	0.67
Mother's education level	N (%)	N (%)	
Elementary School	8 (25.80)	6 (22.22)	0.07
Secondary school	9 (29.03)	8 (29.62)	
High school	11 (35.48)	10 (37.03)	
University Education	3 (9.67)	4 (14.81)	
Child's gender	N (%)	N (%)	
Female	17 (54.83)	15 (55.5)	0.51
Male	14 (45.61)	12 (44.44)	

Table 3: Comparison of the mean and standard deviation scores of the intervention group - total attitude and behavior before and after the intervention

Components of attitude and behavior	Pre-test	Post-test	Paired t-test
	Mean±SD	Mean±SD	
Lack of Empathy	17.25±3.41	25.21±3.98	t = -89/6 P = 0/001
Physical Punishment	18.1±2.62	21.96±4.25	t = -9/06 P = 0/001
Inappropriate expectations	16.94±3.12	21.89±4.23	t = -7/31 P = 0/001
Role Reversal	16.82±2.97	21.57±5.05	t = -93/6 P = 0/001
Attitude (total)	71.05±6.89	83.80±14.35	t = -89/6 P = 0/001
Behavior	8.12±1.58	9.58±1.76	t = -89/4 P = 0/17

The intervention group demonstrated a statistically significant improvement in the mean total attitude score post-intervention compared to baseline ($P<0.001$), with significant enhancements observed across all four subscales of the Adult-Adolescent Parenting Inventory (AAPI): lack of empathy, value of corporal punishment, inappropriate expectations, and role reversal. In contrast, no significant changes in attitude scores were observed in the control group. Regarding behavioral scores, while a marginal increase was noted in the intervention group, this change did not reach statistical significance ($P=0.17$; Table 3).

Independent t-tests confirmed that there were no significant differences between the intervention and control groups at baseline regarding attitudes or behaviors. However, in the post-test assessment, participants in the intervention group reported significantly higher mean scores in total attitude and all its subscales compared to the control group ($P<0.001$). Conversely, although the mean behavior score increased in the intervention group following the educational program, the difference between the intervention and control groups remained statistically non-significant ($P>0.05$; Table 4).

Table 4. Comparison of mean and standard deviation of experimental and control group scores in the areas of total attitude and behavior before and after the intervention

Components of attitude and behavior		Experimental Group Mean±SD	Control Group Mean±SD	Independent t-test statistics
Lack of Empathy	Pre-test	17.35±3.8	17.25±3.74	t= -1/23 P=0/231
	Post-test	22/56±4.37	17.47±3.58	t= 4/73 P=0/001
Physical Punishment	Pre-test	17.89±2.58	18.15±3.15	t =-0/42 0/89=P
	Post-test	21/87±4.18	17.95±3.08	t= 4/69 P=0/001
Inappropriate expectations	Pre-test	17.69±3.72	18.19±3.23	t= -0/63 P=0/95
	Post-test	21.45±3.98	18.25±3.57	t=-6/11 P=0/001
Role Reversal	Pre-test	16.82±3.07	18.07±3.65	/42\ t= - P=0/221
	Post-test	21.25±4.08	17.95±3.68	t= 4/01 P=0/001
Attitude (total)	Pre-test	69.36±4.89	72.80±6.35	t= -1/39 P=0/172
	Post-test	87.25±14.98	73.05±6.98	t= 6/37 P=0/001
Behavior	Pre-test	8.15±1.78	9.58±1.76	t = -0/89 P=0/77
	Post-test	8.95±1.98	9.25±1.68	t= 1/78 P=0/65

These findings indicate that while virtual parenting education effectively fosters more positive parental attitudes toward children, it may not be sufficient, in isolation or within the specified timeframe, to significantly alter observable maternal behaviors.

Discussion

The findings of this study demonstrate that virtual group parenting education significantly improves maternal attitudes toward child maltreatment; however, this intervention did not yield a statistically significant change in observable maternal behaviors. This discrepancy suggests that while enhancing maternal knowledge regarding child-rearing principles effectively shifts underlying attitudes, behavioral change may require more prolonged, intensive, or experiential reinforcement.

Our findings align with existing literature suggesting that parenting education is effective in improving parental knowledge and attitudes, yet behavioral impacts are often inconsistent or transient. A 2021 review of 42 parenting programs in low-income and developing countries identified that while such interventions effectively influence attitudes, they often lack long-term behavioral effects, likely due to deep-seated socio-familial norms (30). Similarly, although some meta-analyses have reported positive impacts on emotional adjustment and behavior (21), others have indicated that significant behavioral change is heavily moderated by study scale and clinical rigor (31). The non-significant behavioral results in our study may, in part, be attributed to the relatively small sample size, which potentially limited the statistical power to detect subtle behavioral shifts.

Conversely, our results regarding improved attitudes are well-supported by studies

focusing on high-risk families, which have consistently reported that parenting interventions improve awareness, empathy, and expectations regarding corporal punishment (32, 33). Furthermore, our findings regarding the efficacy of e-learning are consistent with recent literature. Studies conducted during the COVID-19 pandemic have highlighted the appeal and efficacy of virtual interventions in improving emotion regulation and attitudes toward violence (34). Other research has similarly demonstrated that simulated or virtual environments can effectively increase parental understanding of child needs and foster social support, even among specialized groups such as parents of children with disabilities (35, 36).

Domestic studies have also corroborated these findings. Khosravan et al. (2018) and Cheraghi et al. (2017) confirmed that structured parenting programs significantly enhance positive parenting attitudes and decrease self-reported abusive behaviors (37, 38). However, it is important to acknowledge conflicting historical data; for instance, older studies have noted that the effectiveness of such training can be hindered by low participation rates or the societal taboo surrounding the discussion of child abuse indicators (24).

The significance of parental education cannot be overstated. By providing knowledge regarding developmental stages, communication strategies, and non-violent disciplinary techniques, these programs empower mothers to align their expectations with their child's needs. As emphasized by the World Health Organization, unrealistic parental expectations are a primary precursor to child maltreatment; thus, informed parenting is essential for preventing abuse and promoting the holistic health of the next generation.

Despite these positive outcomes, the lack of significant behavioral change in our study warrants critical reflection. This may be due to the limitations inherent in the virtual delivery format, which may constrain practical exercises, active group discussions, and the internalization of complex skills. Technical challenges, such as unstable internet connectivity or insufficient equipment, may have hindered interaction, potentially leading to increased passivity among participants.

Given these limitations, future research should integrate a higher frequency of follow-up sessions, incorporate more intensive homework assignments, and utilize interactive multimedia platforms to facilitate experiential learning. By moving beyond purely didactic approaches, future programs may better bridge the gap between improved parental attitudes and tangible improvements in child-rearing behaviors.

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Author Contributions

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Conflict of Interest

The authors declare no conflicts of interest regarding this study.

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