

IMPACTS OF POSITIVE PARENTING INTERVENTION ON STRESS MANAGEMENT OF MOTHERS HAVING CHILDREN WITH INTELLECTUAL DISABILITY IN BIRHAN LEHETSANAT REHABILITATION CENTER, ADDIS ABABA

¹Tadele Zebrea, Lecturer at Hawassa University and Doctoral Student at the School of Psychology, Addis Ababa University.

²Belay Tefera, Professor of Psychology, School of Psychology, Addis Ababa University.

³Bhatara Mohit, Consultant, United Arab Emirates.

Abstract

Research evidence indicates that parents of children with intellectual disabilities are exposed to a host of stressful life events while caring for their children with intellectual disabilities. The purpose of this study was then to determine the effectiveness of the Positive Parenting Program (Triple-P) in enabling mothers to manage stress related to parenting a child with intellectual disability (ID). Additionally, the study also aimed at assessing the impact of Triple-P in improving the relationship between a mother and a child with an intellectual disability. Quasi-experimental Design (with Pretest-Posttest Control Group approach) was used to test the effectiveness of the intervention. Parental Stress Scale (PSS) and Parent-Child Relationship Scale (PCRS) were administered to 28 mothers of children with intellectual disabilities before and after the intervention to gather data on the level of stress, conflict, closeness, dependency, and positive relationship. An equal number (n=14) of mothers were randomly assigned to the experimental and control groups. The experimental group participated in 8 sessions of Triple-P, but the control group did not. Descriptive statistics, independent sample t-test, matched sample t-test, and Multivariate Analysis of Covariance (MANCOVA) were used to analyze the data. Findings revealed that mothers in the treatment group showed a significant decrease in stress levels compared to the comparison group. Furthermore, mothers in the experimental group demonstrated statistically significant improvement in their relationship with the intellectually disabled children compared to the control group. However, closeness and dependency were the only two main contributors to the variance in the relationship and their contribution was statistically significant. In conclusion, Triple-P was found to be effective in improving the mother-child relationship and managing the stress of mothers of children with intellectual disabilities.

Keywords: *Triple-P, parental stress, Parent-child relationship, Closeness,*

Dependency, Conflict, Intellectual disability

Introduction

The birth of any child, in general, has a momentous impact on family dynamics. Parenting is an astonishing and remarkable experience often accompanied by high levels of stress, due to difficulties, frustrations, and challenges that parents face in everyday life. Parents' first reaction to the birth of a child with a disability is often a combination of hopelessness, loss, and resentment (Aldosari, & Pufpaff, 2014). As a result, compared to parents of children with typical development, parents of children with developmental disabilities not only experience higher levels of stress but also impaired mental health (Dervishaliaj, 2013). Particularly, the birth of a child with developmental disabilities brings unexpected demands and challenges to parents, for which they are often not prepared (Dervishaliaj, 2013).

Parental stress is the parental perception of disparity between the demands of parenting and available resources (Raphael, Zhang, Liu, & Giardino, 2010), which is one of the many factors that contribute to the effectiveness of parenting (Guajardo, Snyder, & Petersen, 2009). When parents experience high levels of stress and are busy responding to stress, their parenting effectiveness could be compromised (Raphael, Zhang, Liu, & Giardino, 2010). These parents often overreact to their child's behavior, react in a manner less sensitively, apply coping strategies less effectively, or decrease their ability to seek appropriate supports for their child, thus affecting their child's physical and mental health (Ben-Sasson, Soto, Martinez-Pedraza, & Carter, 2013; Zablotsky, Bradshaw, & Stuart, 2013).

Although the existence of a child with a developmental disability threatens all family members' well-being and mental health (Mohan & Kulkarni, 2018), its effect is more prevalent on parents specifically on mothers (Ashori, Norouzi, & Jalil-abke, 2019). As a primary care provider, mothers of children with developmental disabilities are more likely to experience a higher level of stress and depression than any other family member (Crettenden, Lam, & Denson, 2018).

Stress and negative reaction of parents to these family dynamics could affect the quality of family life and family relationship. Family relationships in general and the parent-child relationship, in particular, have a notable influence on the psychological, physical, social, and economic well-being of children. Significant mental, social, and economic problems are linked to disturbances in family functioning and poor family relationships (Sanders, Markie-Dadds, & Turner, 2003). This implies that having a child with developmental disabilities could be a source of conflict in a family that negatively affects the family relationship. Epidemiological studies indicated that family risk factors such as poor parenting, family conflict, and marriage breakdown are strongly influenced children's development (Sanders, Markie-Dadds & Turner, 2003). Moreover, frustration and stress parents experience as a result of their children condition

could turn them to be abusive and neglectful (Moylan, Herrenkohl, Sousa, Tajima, Herrenkohl, & Russo, 2010; Mills, Alati, O'Callaghan, Najman, Williams, Bor, & Strathearn, 2011; Widom, Czaja, Bentley, & Johnson, 2012). This implies that negative parental reactions to children with disabilities could subject children to additional environmental hazards and abuse that could further complicate their condition.

Researches stress the importance of intervention programs in parental stress since high levels of parental stress harm the functioning of the child with developmental disabilities. Given that parental stress can be one factor related to the effectiveness of parenting and the development of children, this intervention study explains the role of the Positive Parenting Program (Triple-P) to reduce stress among mothers thereby improve their mental health so that they can effectively play their parental role for children with intellectual disabilities. Shreds of evidence indicated that parenting skills can give rise to a sense of control and self-efficacy, which in turn may improve perceived well-being and mental health of the parents; and the scope of Positive Parenting Program found to be valuable for improving the skills of the parents, thereby improving their mental health (Kleefman, Jansen & Stewart, 2014; Eyberg, Nelson & Boggs, 2008).

This study is particularly important in the research area where mothers live in an environment where there are limited resources and support for them and their children with intellectual disability. More importantly, since dealing with children with intellectual disabilities requires unique skills and a high level of engagement, that many parents lack, it may lead them to a feeling of helplessness and frustrations and eventually to experience a high level of stress for not knowing how to support their children development. Therefore working with these mothers could help them to improve their skills so that they could cope with the stress they are experiencing, improve their relationship with their children, and effectively contribute to the rehabilitation process of their children.

There are various intervention programs for parents that were designed to improve parenting skills and to promote the growth and development of children. For example, Triple P, Incredible Years (Webster-Stratton, 1984), Parent-Child Interaction Therapy (Eyberg, 1988), Parent Management Training-Oregon (Forgatch, & David, 1999), and Strengthening Families Program (Kurnpfer, 1994) are parenting interventions that have been used for many years both in their countries of origin and other countries. There are mixed findings on the effectiveness of these different family intervention programs. The strengthening family intervention program, for example, was observed to lack external validity that it yielded positive effects among families in the US but failed to replicate the same effect when implemented in Sweden (Kumpfer, Magalhães, & Xie, 2016). Similarly, a study indicated that Functional Family Therapy did not have strong scientific evidence that can support its further use despite being in operation for more than 40 years (Weisman, & Montgomery, 2018). The Incredible Years Parenting Program is an evidence-based program for treating young children's early-onset Conduct problems

including aggression, noncompliance, defiance, and oppositional behavior (Webster-Stratton, Rinaldi, & Jamila, 2011). However, its effectiveness is determined based on long years of follow-up and when applied in the early onset of the problem behavior which is difficult to apply for the target parents. Parent-Child Interaction Therapy (PCIT) is also an evidence-based approach intended to treat disruptive behavior problems in children aged 2 to 7 years (Funderburk, & Eyberg, 2011). Although much empirical evidence is there to support the effectiveness of the program in Europe and North America (Budd, Hella, Bae, Meyerson, & Watkin, 2011; Bjørseth, & Wichstrøm, 2016), its effectiveness is not established in contexts with a different culture where resources are limited. Relatively, Positive Parenting Program is a convenient approach to apply in a different culture, within a limited time, and in a cost-effective manner.

Empirical evidence suggests that positive parenting programs can improve a range of positive caregiver and child outcomes, including child internalizing and externalizing behaviors, parent-child attachment, parenting stress, and parental self-efficacy (Eisenstadt, Eyberg, McNeil, Newcomb, & Funderburk, 1993; Chase, & Eyberg, 2008; Eyberg, Nelson, & Boggs, 2008). These programs are grounded in behavioral theory in which parents are taught to use positive reinforcement strategies, such as praise, and non-corporal discipline strategies to increase appropriate child behaviors. The goal is to provide parents with concrete techniques to decrease harsh parenting, improve interactions, encourage child pro-social behavior, and promote positive child development (Nowak, & Heinrichs, 2008). Triple-P for parents of children with special needs is focused on mental health, management, and control of behavior and relationships with children, and improves child development through parental training and helps the parents to obtain the sense of social competency and self-control parenting skills (Sanders, 2012). The goals of the program include an increase of knowledge, skill, self-confidence, self-efficacy, and mental health of the parent and their children (Lohan, Mitchell, & Filus, 2016; Sanders, 2012).

Researches confirmed that Triple-P is effective in improving parenting skills and enhancing the positive development of children with intellectual disabilities and psychosocial problems (Kleefman, Jansen, & Stewart, 2014). A study by Glazemakers and Deboutte (2013) revealed that group Triple-P led to a decrease in psychological distress, maladaptive parenting, and child conduct problems. Similarly, Triple-P was found to be an effective intervention for general parenting stress, parental self-efficacy, and healthy living of parents of children with chronic illnesses (Lohan, Mitchell, & Filus, 2016). However, much is not known about the effect in a different culture that is characterized by a prevalent attitudinal problem of the general community towards children with disabilities and their families as well as in contexts where there is very limited support for the children and the family.

The main purpose of this quasi-experimental study is, therefore, to investigate whether or not mothers of children with intellectual disabilities in Addis Ababa show better management of their stress as a result of Triple-P training they have been undergone during the intervention

period compared to the group that has no training on Triple-P. Based on findings of previous studies two main hypotheses were formulated for the current study. The hypotheses were: (a) mothers of children with intellectual disabilities in the intervention group will demonstrate reduced stress compared to parents in the control group, and (b) mothers of children with ID in the intervention group will demonstrate a better parent-child relationship compared to parents in the control group.

Methods

Overview of the Positive Parenting Program (Triple P)

The Triple P is a comprehensive system of parenting and family support for families with children. Positive Parenting Program was developed by Matthew R Sanders, Karen M Turner, Carol Markie-Dadds, in 2001, in Australia at the University of Queensland. The program was developed in response to inspiration to the health promotion program that had been implemented to impact the general population. The positive parenting program is evolved from a small home-based, individually administered training program for parents of disruptive preschool children into a comprehensive preventive intervention program (Sanders, 2008).

The goal of the program

The overall goal of the program is to enhance the knowledge, skills, and confidence of parents to prevent behavioral, emotional, and developmental problems in children and adolescents.

Specific Objectives

Triple P program is designed and launched to achieve the following objectives

- Promoting self-sufficiency of parents so that they may feel confident in their abilities to parent with minimal or no additional support.
- Increase parental self-efficacy so that the parent believes he or she can overcome a problem in parenting when it arises.
- Use self-management tools so that parents may change parenting practices for the better.
- Promoting personal agency meaning that parents must learn to “own” the improvements in their family situation.
- Promoting problem-solving so that parents can learn how to define problems, formulate opinions, develop a parenting plan, execute the plan, evaluate the outcome, and revise the plan as required

Program Activities

The program consists of five levels of intervention, which increases with intensity, and progressively narrows the reach at each increasing level.

Level 1 or Universal Triple P: This intervention uses a media campaign to reach out to parents who are seeking help.

Level 2 or Selected Triple P: this level primarily targeted at parents who seek help and are dealing with minor behavior problems or smaller issues that do not require intensive intervention.

Level 3 or Primary Care Triple P: an intervention with increased intensity of intervention for families experiencing common behavior problems.

Level 4 or Standard and Group Triple P: This level of intervention is targeted at populations of children who have detectable problems that may not be clinically diagnosed and at parents who are struggling with child-rearing challenges.

Level 5 or Enhanced Triple P: this level addresses parents that require more serious intervention or are dealing with major behavioral problems.

The program is designed to support parents of children of different ages starting from infancy. The length of the sessions depends on the level of the intervention and the characteristics of parents and children.

Approaches and Methods

The media campaign (e.g. advertisements in local radio and newspapers, newsletters sent to schools, and mass mailings to families in the intervention area), brief consultations, parenting seminars, parenting skills training, child management skills training, and training on stress coping skills are some of the approaches used by the program to deliver the purpose.

Outcome Measures

Triple p applies various tools of assessment before and after the intervention to determine the change and progress in parental knowledge, skills, and confidence in preventing children's emotional, behavioral, and developmental problems. Most commonly it uses the Parenting Scale, Child Behavior Inventor, and Parental Stress Scale.

Effectiveness of the program

Studies consistently confirmed that Triple P is effective in reductions of emotional problems and psychosocial distress among children and their parents. It also demonstrated a significantly greater reduction in coercive parenting.

Study Design

This study followed a quasi-experimental Pretest-Posttest Design with a control group. Pretest-posttest with control group design is widely used in behavioral research, primarily to compare groups and/or measuring change resulting from experimental treatments (Dimitrov, & Rumrill, 2003). The basic premise behind the pretest-posttest with control group design involves obtaining a pretest measure of the outcome of interest before administering some treatment, followed by a posttest on the same measure after treatment occurs and determining the effect of

the treatment on the experimental group in comparison with the group without treatment (control group) (Salkind, 2010).

Participants

The population of the present study included all mothers of children with intellectual disabilities whose children were attending rehabilitation programs in Birhan Lehetsanat Rehabilitation Center in the year 2019/2020. The Center provides three major services for children with disabilities in general. These were orthopedic services, physiotherapy, and vocational and daily living skills training. The third component, vocational and daily living skills training was given for children with intellectual disabilities in the Intellectual Disability Training Center (IDTC). There were a total of 287 documented children and youths with various disabilities in the organizations who were receiving the mentioned services (n=187) or were on the waiting list to get the services (n=100). This study focused only on children that were taking vocational and daily living skills training in the center regularly. There were 32 (M=15 and F=17) children and youths with intellectual disabilities in the center who have been receiving vocational and daily living skills training from four to ten years. The inclusion criteria for mothers were having a child with an intellectual disability who is currently attending the rehabilitation program in the center, being a main care provider at home, and do not have prior training on parenting skills. Since 28 mothers fulfilled the inclusion criteria they are considered as participants of the study.

Assignment of participants into treatment and control group: The participants were then given a pretest on parental stress level and parent-child relationship measures and assigned randomly to the control and intervention group (n=14 for each group). Participants were not informed about the nature of groups and only informed that they will be given training on the two rounds. Since mothers come from different places of Addis Ababa, it was highly unlikely for the findings to be contaminated by information exchange between the two groups.

Tools of Data Collection

Two types of data collection tools (Parental Stress Scale (PSS) and Parent-Child Relationship Scale (PCRS)) were used in the study to determine the level of stress experienced by mothers and to examine the nature of the relationship between the mother and the child respectively.

Parental Stress Scale (PSS) was used to measure the relative magnitude of stress mothers experience in the parent-child relationship. It is developed by Berry and Jones (1995). There were a total of 18 items designed in the form self-report scale intended to measure the positive and negative themes of parenthood. The items were developed on a five-point scale in which respondents indicate their level of agreement or disagreement (5 = strongly agree to 1=

strongly disagree) in terms of their typical relationship with their child. The possible score range from 18 – 90 that high score indicates a high level of stress and a low score indicates a low level of stress. The tool is selected for this study purpose since it is reliable to measure intervention outcomes on mothers' levels of stress that involves pre and post-intervention measures (Berry & Jones, 1995). Evidence from multicultural settings, including English, Chinese, and Spanish versions of the tool indicated that the internal consistency of the tool is satisfactory and ranges from 0.76-0.83 (Berry & Jones, 1995; Cheung, 2000; Leung, & Tsang, 2010; Orzono, Alonson-Arbiol, & Balluerka, 2007). Similarly, the studies also confirmed that the tool is valid to measure parental stress.

Parent-Child Relationship Scale (PCRS) (Pianta, 1992): This was a 30- item self-report instrument rated on a 5-point rating scale ranging from 1 (definitely does not apply) to 5 (definitely applies) to assess the mother's perception of her relationship with the target child. The scores range from 30 to 150 and a high score indicates a warm relationship between the child and the mother. The scale consists of three subscales: conflict (10 items), the positive aspect of a relationship (14 items), and dependence (6 items). The conflict subscale measures the negative aspects of the relationship; the positive aspect of the relationship subscale reports the level of closeness and open communication within the relationship, and the dependency subscale determines the degree to which a child is dependent on the parent. The conflict subscale was reverse-coded and the conflict, closeness, dependency subscales were combined to yield a total mean of a score for each participant. Higher scores indicate warmer parental relationships. Internal consistencies for the total scale were 0.80. Cronbach's coefficients were 0.83, 0.72, and 0.50, for the conflict, positive aspects of a relationship, and dependency subscales, respectively (Pianta, 1992).

Both the scales (PSS and PCRS) were selected and used for this study because they have proven reliability and validity to be applied under multicultural settings. The number of items in each scale and the scope of constructs the tools measures are also found to be convenient for this study purpose.

Procedures

The researcher first obtained verbal consent from mothers to participate in the study. Berhan Lehetsanat (service providing organization for children with intellectual disabilities) was also provided a letter of cooperation from Addis Ababa University School of Psychology that reveals information regarding the objective and the nature of the study. Then, documents of the children were reviewed and selected mothers were contacted through phone by the organization for a consultation meeting. All the 32 mothers responded to the call and appeared for the consultation meeting. The researcher described the procedures, activities, benefits as well as the objective of the study to the mothers who attended the discussion. All responded positively and

were volunteers and happy to take part in the study since they have felt that it would be helpful for their children and themselves.

28 mothers who fulfill the inclusion criteria were provided PSS and PCRS tools to gather pre-intervention data. The Amharic versions of the scales were used since it was the most convenient for the target group. One trained enumerator from the center was used during data collection for mothers who have no education.

Based on pretest results and personal information (age, education level, occupational status) match pair was created and assigned to control and experimental groups randomly (see fig 1 below). The intervention group has participated in Triple-P training, while the control group did not. All participants completed both measures after the intervention as well. Participants included in the experimental group were contacted through phone to attend the first session and then the regular schedule was designed in a way that was best for the mothers. All the training sessions were held on the afternoon before 1 and half hour class end of their children so that while they complete their session in the meantime they could pick their children from the center to home.

The experimental group participated in 8 intervention sessions of training on Triple-P, while the control group did not engage in any training. The training was carried out for one month: twice a week and each session has lasted for a minimum of 60 minutes. Overviews of the session's content are presented in Table 1 below.

Table 1: The Contents of intervention training

<i>Session</i>	<i>Contents covered in the session</i>
Session 1	<i>Understanding children and youths with ID</i> <ul style="list-style-type: none">• Getting to know each other, awareness of nature and purpose of the program• Understanding children with intellectual disabilities (their developmental characteristics, their behavior, mode of communication ...) and setting development appropriate goals for their children
Session 2	<i>Mothers (Parents) are the best service providers for children with intellectual disabilities</i> <ul style="list-style-type: none">• Setting development appropriate expectations and establishing positive parenting for children with intellectual disabilities• Creating a suitable home environment that enhances the cognitive, social, emotional, and physical development of children• Involvement of other family members in helping a child with

developmental disabilities (sharing the burden with other family members)

Session 3 ***Communicating ID children and youths***

- Strategies for effective communication with children and youths with ID, practicing activities that could promote communication enhances the relationship with the child such as storytelling, word games, having fun, allocating useful time to the child, creating opportunities for children to explore the outside world...

Session 4 ***Supporting children's training***

- Understanding the needs and potentials of children with ID,
- Teaching self-help skills at home, maintaining effective communication with the child at home....
- The power of repeated practice in the learning process of children with ID
- Identifying and seeking help from organizations outside of the home

Session 5 ***Planning ahead***

- Preparing for the demands that come ahead while children become adolescents or adults,
- High-risk situations at home and outside
- Family survival tips

Session 6 ***Managing behavioral problems***

- Establishing routines and house rules, positive disciplining, practicing positive behavior management skills including praise, ignoring, teaching good behavior, diverting attention...

Session 7 ***Stress Management***

- Self and peer evaluation on stress management strategies they were employing
- Self-care and stress management and Parental tips for parents of children with intellectual disabilities
- Creating a support group among themselves

Session 8 **Wrap Up**

Summarize lessons learned and progress review, praise caregivers for their positive progress

NB:

- This intervention is designed based on guidelines of Triple p intervention at level 4 and 5
-

since these mothers are experiencing serious problems related to their children condition

- At the end of each session, mothers were taking tasks to apply at home and then provide a brief reflection on the next session. Experience sharing and model case review were used in each session to enforce the implementation of the activities
- Group discussion, experience sharing, case analysis, reflection, modeling, role play, and behavioral rehearsal methods were used to deliver the lesson.
- Emphasis was given on the importance of reinforcement to promote positive behavior and to minimize negative behavior in each session.

Concerning the ethical issues, all participants were agreed to participate in the study with full consent. The researcher described the objective and the nature of the study to the participants as well as to the organization that provides rehabilitation services for children since the intervention was given in the center.

Summary of Sampling Procedure and Assignment of Participants

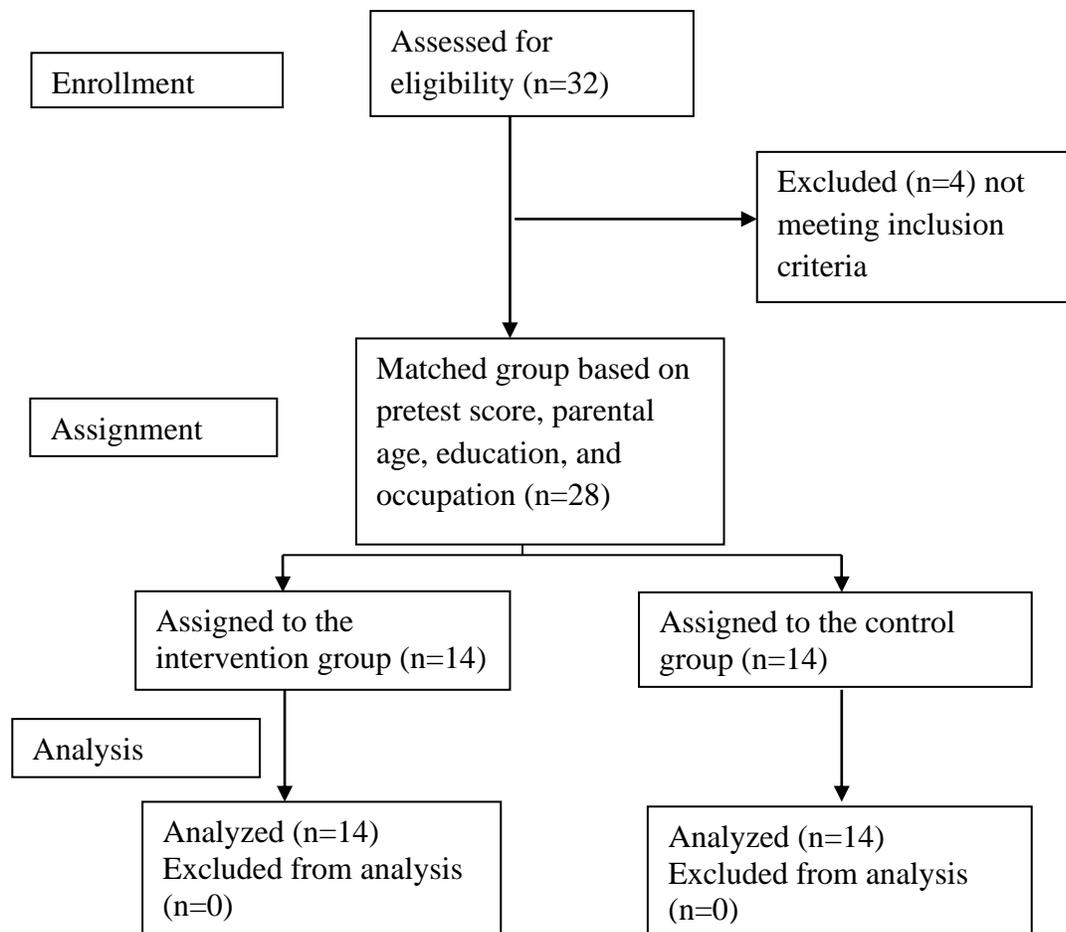


Figure 1: Sample Selection and Group Assignment Chart

Data Analysis

Descriptive and inferential statistical methods were employed to analyze the data and meet the purpose of the study. First, an independent sample t-test and descriptive statistical analysis were computed to demonstrate the equivalence of the group and to describe the demographic characteristics of the participants respectively. Secondly, an independent sample t-test was carried out to examine the effect of the triple-p program on the stress level of mothers in the intervention group in comparison with the control group. Similarly, the mean difference between pre and post-test of the parental stress scores of mothers in the intervention group was examined by employing the paired sample t-test. Third, the independent sample t-test was computed to find out the mean difference in post-test scores of the parent-child relationship between the control and intervention groups. Likewise, a paired sample t-test was used to scrutinize the mean difference in pre and post-intervention parent-child relationship scores of mothers in the intervention group. Finally, MANCOVA was run to verify the constructs of the parent-child relationship scale that demonstrated a significant contribution to the variance in the post-intervention scores of parent-child relationships among mothers in the intervention group.

Results

Demographic Characteristics of Participants

Basic data were provided by participant mothers regarding their age, educational status, occupation, and their child's age.

Table 2: Independent Sample t-test of Mean Difference of Age of the Mother and the Target child in the Intervention and Control Groups

	Group	N	Mean	SD	df	t	p
Age of the Child	Intervention Group	14	12.64	4.57	26	0.27	0.84
	Control Group	14	12.29	4.57			
Age of the Mother	Intervention Group	14	39.29	4.58	26	0.29	0.77
	Control Group	14	38.71	5.65			

As indicated in table 2 above there was no difference between the mean age of children whose mothers were in the intervention group ($M=12.64$, $SD=4.57$) and the control group ($M=12.29$, $SD=4.57$), ($t(26)=0.27$, $p>0.05$). Similarly, an independent sample t-test was computed to compare the mean age of mothers in the intervention group ($M=39.29$, $SD=4.58$) and control group ($M=38.71$, $SD=5.65$) and the result showed that there was no statistically significant mean difference between the two groups ($t(26)=0.29$, $p>0.05$).

Table 3: Educational and Occupational Status of Mothers in the Intervention and Control Groups

Variable	Category	Intervention group		Control group		Total	
		F	%	f	%	f	%
Educational Status of the mothers	Uneducated	5	17.88	3	10.72	8	28.6
	Elementary level	2	7.13	4	14.26	6	21.4
	Secondary level	7	25.02	5	17.88	12	42.9
	Higher education	0	0	2	7.1	2	7.1
	Total	14	50	14	50	28	100.0
Occupational Status of Parents	Unemployed	11	39.29	10	35.71	21	75.0
	Daily laborers	2	7.13	4	14.27	6	21.4
	Employed	1	3.6	0	0	1	3.6
	Total	14	50	14	50	28	100.0

Table 3 above presents the educational and occupational status of mothers in the intervention and control group. As presented, participants were distributed to the control and intervention groups proportionally based on their demographic characteristics.

Pretest Results of Intervention and Control Group

The parental stress scale and parent-child relationship scale were administered before the intervention for all participants that the result was used as the main criteria to create a matched group. The result and their respective analysis are presented below.

Table 4: Comparisons of Means of Mothers in the Intervention and Control Groups on pre-test Measures of Parental Stress Scale and Parent-Child Relationship Scale

Scale	Group	N	Mean	SD	df	t	P
Parental Stress	Intervention Group	14	46.29	5.717	26	-0.83	0.42
	Control Group	14	48.57	8.591			
The positive aspect of the relationship	Intervention Group	14	57.71	2.525	26	-1.97	0.60
	Control Group	14	59.71	2.840			
Conflict	Intervention Group	14	38.93	2.786	26	0.91	0.37
	Control Group	14	37.86	3.394			
Dependency	Intervention Group	14	20.36	3.201	26	-0.89	0.38
	Control Group	14	21.29	2.234			
Parent-child relationship total	Intervention Group	14	117.0	6.691	26	-0.84	0.41
	Control Group	14	118.86	4.944			

To examine the similarity of the two groups and to assess the preexisting group differences between the two groups, independent sample t-test analysis was computed and, as indicated in Table 4 above, there was no significant mean difference between the intervention group ($M=46.29$, $SD=5.71$) and control group ($M=48.57$, $SD=5.71$) on level of *stress* ($t(26) = -0.83$, $p>0.05$). Similarly the result depicted that there was no statistically significant difference in pre-test result of mothers in parent-child relationship main scale ($t(26)=-0.84$, $p>0.05$) as well as subscales of positive aspects of relationship ($t(26)=-0.84$, $p>0.05$), conflict ($t(26)=0.91$, $p>0.05$) and dependency ($t(26)=-0.89$, $p>0.05$). Generally, the results and the corresponding analysis indicate that the two groups are similar that potential differences in post-test results on the employed measures after the intervention in the experimental group compared to the control group could be attributed to the effect of the intervention.

The Effect Triples-P Training on Stress Level of Mothers

One of the purposes of this study was to examine the effect of Triple-P training on mothers' level of stress compared to the comparison group. To determine whether the training brought change on the intervention group or not, independent sample t-test analysis was computed

Table 5: Comparison of Means of Mothers in the Intervention and Control Groups on post-intervention scores of Parental Stress

Group	N	Mean	SD	df	T value	P-value
Intervention Group	14	42.57	3.857	18	-2.38	0.028
control Group	14	48.57	8.591			

As depicted in the table above, the mean stress level of mothers in the intervention group ($M=42.57$, $SD=3.85$) found to be lower than the mean of mothers in the control group ($M=48.57$, $SD=8.59$). The difference is observed to be statistically significant ($t(18) = -2.38$, $p<0.05$) that mothers' stress level in the intervention group decreased due to the effect of the training. Moreover, to determine the effect size, eta squared was computed and the result is found to be 0.17 that, according to Cohen (1988), the value indicated a large effect size.

Table 6: Paired Sample t-test to Compare Pre-test and Post-test Mean Scores of parental stress of Mother in the Intervention Group

Variable	Stage	M	SD	Df	t	P
Parental stress	Pre-test	56.2143	6.69303	13	10.30	0.000
	Post-test	42.5714	3.85735			

To examine the change in the level of stress among mothers in the intervention group, a paired sample t-test was carried out on the pre-test and post-test parental stress mean scores. The result illustrated that there was a statistically significant decrease in stress level of mothers from pre-test ($M = 56.21, SD = 6.69$) to post-test ($M = 42.57, SD = 3.86$), $t(13) = 10.30, p < 0.05$.

The Effect of Triple-p Training on Mother-Child Interaction

The other objective of the present study was to assess the impact of Triple-P in improving the mother-child relationship. Indeed independent sample t-test analysis was run to examine the existence of differences in a parent-child relationship mean score as well as mean scores of subscales of the intervention group compared to the control group. Additionally, a Paired sample t-test was also computed to inspect the difference in pre and post-test measures of the intervention group. Finally, the MANCOVA test was computed to examine the independent contributions of variables for change in the variance as a result of the intervention.

Table 7: Comparison of Means of post-intervention Parent-Child Relationship Scores of the Intervention and Control Group

Group	N	Mean	SD	df	t	p
Intervention Group	14	129.29	7.26	26	4.6	0.000
control Group	14	118.64	4.72			

Table 7 above showed that there was a statistically significant mean difference ($t(26)=4.6, p < 0.05$) on parent-child interaction mean scores between mothers in the intervention group ($M=129, SD= 7.26$) and the control group ($M=118, SD=4.72$). This implies that mothers in the intervention group showed improvement in their interaction with their intellectually disabled children compared to mothers in the control group.

Table 8: Paired Sample t-test to Compare Pre-test and Post-test Mean of Parent-Child Interaction Scores of Mother in the Intervention Group

Variable	Stage	M	SD	Df	T	P
The positive aspect of the relationship	Pre-test	57.71	2.52	13	-6.29	0.000
	Post-test	63.86	3.42			
Conflict	Pre-test	38.93	2.79	13	-4.32	0.001
	Post-test	42.57	4.65			
Dependency	Pre-test	20.36	3.20	13	-4.70	0.000
	Post-test	22.86	2.25			
Parent-child relationship total	Pre-test	117.00	6.69	13	-9.14	0.000
	Post-test	129.29	7.26			

A paired-samples t-test was used to evaluate the impact of the intervention on mothers' scores on components as well as parent-child relationship main scores. There was a statistically significant increase ($t(13) = -6.28, p < 0.05, t(13) = -4.7, p < 0.05$) in post-test scores on positive aspects of relationship ($M = 57.71, SD = 2.52$) and dependency ($M = 22.85, SD = 2.24$) compared to pre-test scores. The result also indicated that there was a statistically significant decrease in conflict level ($t(13) = -4.32, p < 0.05$) in the post-intervention mean score ($M = 42.57, SD = 4.65$) compared to pretest mean score ($M = 38.92, SD = 2.78$). Generally, the intervention brought a statistically significant difference in the mean score of the parent-child relationship measure ($t(13) = -9.14, p < 0.05$).

To understand which parent-child interaction subscales contributed most to the intervention group and control group differences after controlling the effects of pretest scores, a multivariate analysis of covariance (MANCOVA) was used. Three dependent variables were used: the positive aspect of parenting, conflict, and dependency. The independent variable was the group (intervention and control group) and the covariates were pretest scores. Having studied the assumptions of MANCOVA, (Leven's test for equality of variance was not significant in all components ($P > 0.05$), M Box's test approved equality of covariance matrices ($P > 0.05$) and Wilk's Lambda was significant between two groups) the analysis was carried out.

Table 9: Multivariate Analysis of Covariance

Subscale	SS	df	MS	F	Sig.	Partial Squared	Eta
The positive aspect of a relationship	42.64	1	42.64	6.54	.018	0.23	
Conflict	5.5	1	5.5	0.69	0.41	0.033	
Dependency	11.26	1	11.26	4.51	.042	0.18	

The results of MANCOVA showed that Triple P had a positive and significant ($P < 0.05$) effect on the positive aspect of parenting and dependency subscales of a parent-child relationship. Also according to eta quotient 23%, 3.3%, and 18% of the variation in the experimental group in aspects of positive parenting, conflict, and dependency respectively can be explained by the effect of Triple-P training sessions. However, the significant value ($p = .41$) for the conflict subscale showed that the difference in conflict is insignificant. This indicates that participating in the program make mothers in the experimental group to demonstrate improved closeness and dependency while the conflict aspect remains similar for mothers in the experimental and control group.

Discussion

The finding of the current study revealed that mothers in the intervention group exhibited reduced stress compared to mothers in the control group. Similarly, mothers in the intervention group reported a lower level of stress in post-test measures compared to the pretest measures. Generally, the findings of the present study showed that Triple-P has a positive effect on reducing the stress of mothers of children with intellectual disabilities. These imply mothers in the intervention group demonstrated enhanced skills of stress management after the intervention. This finding is found to be consistent with many other studies. The study by Chase and Eybery (2008) signified the impact grouped Triple-P to reduce parenting stress among parents of children with special needs. Their finding also revealed that Triple-P was found to be effective for a range of positive behavior outcomes among parents and children including improved parent-child attachment and enhanced parental self-efficacy. The triple-P intervention was also found to be effective in reducing psychological problems among parents including stress (Kleefman, Jansen & Stewart, 2014). A consistent finding was also reported by Glazemaker and Deboutte (2013) that psychological stress and maladaptive parenting were observed to be better managed among parents who had training on grouped Triple-P. A recent study also disclosed the effectiveness of Triple-P in helping parents to cope with general parenting stress (Ashori, Norouzi, & Jalil-abke, 2019).

The finding of the present study also disclosed that a positive parenting program has a positive effect on improving the relationship of mothers with their intellectually disabled children. Mothers who undergo in series of training sessions demonstrated higher closeness, enhanced dependency, and decreased stress. The analysis conducted in comparison with the control group, as well as within-group in present post-test measures, consistently confirmed the effect of triple p in improving the mother-child relationship. Similarly, Salari, Ralph, and Sanders (2014) investigated the effectiveness of group Triple-P in managing adolescents' behavior and reported that parents in the grouped Triple-P demonstrated greater improvement in parent-child relationships, lower teen disruptive problem behaviors, and reduction in the negative impacts associated with teen difficulties. Reportedly, there is a significant and positive relationship between group Triple-P and mother-child relationships (Graaf, 2008a; Graaf, 2008b).

In this study, it was observed that the intervention program resulted in a reduction of conflict, improvement of closeness, and enhanced dependency between the mother and the child. Similarly, several studies have consistently reported that group Triple-P is effective in reducing conflicts, increasing closeness and dependency, and improving the relationship of mother-child with developmental disabilities (Roushanbin, Pouretamad & Khoushabi, 2007; Hajebi, Hakim & Shoshtari-Khajeddin, 2005; Gorji, 2004; Ercan, Varan & Deniz, 2005; Abedi-Shapourabadi, 2012). In the current study, the advanced analysis uncovered that closeness and

dependency were the two main contributors to the variance in the improvement of the mother-child relationship after the intervention.

In conclusion, the current study demonstrated that Triple-P would decrease parenting stress and promote positive relationships among mothers and their children with intellectual disabilities. Triple-P is an effective multi-level behavioral family intervention, based on social learning principles, which aims to prevent and treat behavioral, emotional, and developmental problems in children and adolescents by enhancing the knowledge, skills, and confidence of parents.

The findings of this intervention study imply the need for the introduction of a similar intervention program that could bring a real positive impact on the lives of children and families. In Ethiopia, as part of early childhood care and education program and family welfare system, Culture-sensitive Triple-P curriculum and training should be launched so that by enhancing the parenting skills of parents, it is possible to ensure the well-being of children and family. This is particularly important since parents of children with disabilities have limited opportunities to get support in the country in general. In addition to that, similar intervention studies should be promoted on parents of diversified disability groups as well as the general population. This would help to identify practical strategies and approaches that could be used as an input for program design that can bring a real impact on the practice of the community as a whole.

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