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Promoting Family Mental Health Through Mother-to-Teenager Parenting Education: An Evaluation of The GINARASA Program in Sumbawa, Indonesia

Fayha Haniya Fahri[1]*, Dwi Farel Putra Airlangga[2], Yarda Habiballa[3], Panji Ashar[4]
SMAS Pribadi Beji, Indonesia[1]
SMAN 2 Sumbawa, Indonesia[2]
MAN 1 Sumbawa, Indonesia[3]
SMKN 2 Sumbawa Besar, Indonesia[4]
Email : fayha.sma24@pribadidepok.sch.id[1]*, dwifarelputraairlangga@gmail.com[2], yardahabiballa@gmail.com[3], panjiazhar77@gmail.com[4]

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Abstract

Adolescent mental health challenges in Sumbawa, Indonesia, are increasingly associated with peer influences, digital media exposure, and limited family support. In response, the GINARASA program was developed as a community-based intervention to promote family mental health through parenting education for mothers of adolescents. This study aimed to evaluate changes in maternal knowledge and positive parenting practices following participation in the GINARASA program. A one-group pretest–posttest intervention study was conducted from August to September 2026, involving 44 mothers in Sumbawa Regency who were recruited through purposive sampling. Quantitative data were analyzed using paired-samples t-tests and Wilcoxon signed-rank tests, while open-ended responses were examined through thematic analysis. The findings revealed a statistically significant increase in maternal knowledge scores, from 2.82 to 5.00 ($p < 0.001$), and positive parenting and communication scores, from 16.41 to 23.07 ($p < 0.001$). Qualitative findings further suggested that participating mothers adopted calmer responses, practiced active listening, and reported improved communication with their adolescent children. These findings suggest that structured, community-based parenting education may strengthen maternal knowledge, positive parenting practices, and parent–adolescent communication, providing a potentially useful approach to promoting family mental health at the community level. However, the absence of a control group limited causal interpretation, and future studies should incorporate controlled designs, longer-term follow-up assessments, and adolescent-reported outcomes to evaluate the program's effectiveness and sustainability.

INTRODUCTION

Adolescence is a critical developmental stage characterized by substantial biological, psychological, and emotional changes associated with puberty (Luo et al., 2024; Baker et al., 2025). During this period, ongoing brain development increases adolescents' sensitivity to social and environmental influences (Baker et al., 2025). Peer relationships and digital media

exposure can significantly shape adolescents' attitudes, emotions, and behaviors (Baker et al., 2025; Soliha et al., 2026). Excessive engagement with digital platforms has been associated with emotional and behavioral difficulties (Masri-Zada et al., 2025). Furthermore, experiences of cyberbullying and fear of missing out (FOMO) have been linked to increased symptoms of anxiety, depression, psychological stress, and reduced self-esteem among adolescents (Sari & Nurhidayah, 2026).

Similar challenges have been documented among adolescents in Sumbawa, Indonesia. A mental health screening involving more than 74,000 students identified 27 individuals exhibiting depressive symptoms potentially associated with bullying experiences (Gustiana & Setuningsih, 2026). Another study conducted in Sumbawa reported associations between excessive online gaming and sleep disturbances, irritability, declining academic performance, and reduced social interaction (Akbar et al., 2023). Substance misuse has also emerged as a concern, with 32 school-age children and adolescents receiving rehabilitation services for substance-related problems in Sumbawa in 2024 (Soliha et al., 2026). Collectively, these findings highlight the multifaceted nature of adolescent mental health challenges and the potential contributions of peer relationships, digital environments, and family support.

Families play a fundamental role in helping adolescents navigate these developmental and environmental challenges. Parenting styles, communication patterns, parental emotional regulation, and the quality of family relationships can substantially influence adolescent mental health and psychological well-being (Zahrana et al., 2025). Supportive parenting practices characterized by warmth, open communication, active listening, and emotional validation may strengthen adolescents' self-esteem and emotional well-being (Peng et al., 2021; Zhang et al., 2021; Saraswati et al., 2026). Conversely, parental rejection, excessive protection, and rigid or unsupportive behavioral control may negatively affect adolescents' self-esteem and psychological adjustment (Peng et al.; Yang et al., 2024). Parental digital literacy is also important for guiding adolescents toward responsible technology use. Nevertheless, digital literacy alone may be insufficient to prevent exposure to online risks, emphasizing the continued importance of parental supervision, communication, and emotional support (Luthfia et al., 2021; Putri et al., 2026).

Previous research has demonstrated that adolescent mental health problems arise from multiple interacting factors rather than a single determinant, with their manifestations varying across individual and social contexts (Rohyati et al., 2026). Effective parent–adolescent communication is therefore essential for strengthening family relationships and supporting adolescent psychological well-being. However, interventions designed to improve parent–adolescent communication may encounter challenges, including limited adolescent engagement and benefits that are perceived more strongly by parents than by adolescents (Hoy-Petersen et al., 2026). These findings underscore the need for culturally appropriate, community-based interventions that address multiple influences on adolescent mental health while actively engaging both parents and adolescents. In response, KORASA (Sumbawa Healthy Youth Community), a youth organization established by high school students, developed Gerakan Ina’ dan KORASA (GINARASA), a community-based initiative incorporating the Sumbawa term Ina’, meaning "mother."

The GINARASA program was initiated by KORASA in collaboration with PKK Sumbawa (Pemberdayaan Kesejahteraan Keluarga, or Family Welfare Empowerment). The

initiative involved adolescents, adult facilitators, PKK community volunteers, and mothers, enabling young people to participate actively in family education and mental health promotion. The program acknowledged the influence of social, economic, environmental, and family-related factors on adolescent behavior (Purnamawati et al., 2024), while recognizing intergenerational differences in cultural orientations and parenting practices (Yang et al., 2024). It also incorporated the local cultural values of Saling Jaga (mutual care and protection) and Saling Tulung (mutual assistance), alongside practical education in effective communication, emotional support, and mental health awareness (Saraswati et al., 2026).

The primary objective of this study was to evaluate changes in maternal knowledge, positive parenting practices, and parent–adolescent communication following participation in the one-month GINARASA program. The intervention emphasized empathetic listening, emotional validation, mental health awareness, conflict resolution, and culturally responsive communication (Saraswati et al., 2026), together with ongoing parental digital literacy education (Putri et al., 2026). By actively involving adolescents in educational activities for mothers, the study also sought to explore a participatory, culturally grounded approach to family mental health promotion. Its findings were expected to provide preliminary evidence to inform the development of community-based parenting education programs aimed at strengthening maternal competencies, improving parent–adolescent communication, and supporting adolescent mental health in local communities.

METHOD

Study Design and Setting

A one-group pretest–posttest intervention design was employed to evaluate the GINARASA program in Sumbawa Regency, West Nusa Tenggara, Indonesia, from August to September 2026. Participants completed assessments before and after approximately one month of parenting education.

Participants and Sample Size

The minimum sample size was calculated for a paired-samples t-test using a two-sided significance level of 0.05, 80% statistical power, and a medium standardized effect size (Cohen's dz = 0.5), resulting in 34 participants with complete paired data. Because no previous GINARASA study was available to estimate an expected mean difference, a medium standardized effect size was used. After allowing for 10% loss to follow-up or incomplete paired data, the minimum recruitment target was 38 mothers.

Mothers were recruited using purposive sampling. They were eligible if they were the main caregivers of adolescents aged 11–19 years, lived in Sumbawa Regency, and were willing to complete the program.

GINARASA Intervention

GINARASA used a cascade education model. Before educate mothers, 85 people joined two workshop led by a clinical psychologist: 74 PKK cadres, seven KORASA members, and four KORASA helpers. KORASA members were high school students involved in the youth community, while KORASA helpers were adults who supported KORASA activities.

The workshops used the "Ada Apa dengan Anak Remajaku?" ("What's Going on with My Teenager?") module, covering adolescent development, parenting, communication,

and digital supervision. The module was developed by a clinical psychologist using supporting literature (Peng et al., 2021; Saraswati et al., 2026; Yang et al., 2024; Putri et al., 2026), then discussed with a native Sumbawa speaker, KORASA members, and a public health expert. Several parts were adjusted to fit Sumbawa culture and everyday communication.

After the workshops, participants could choose whether to continue as educators. Those who did could educate one or more eligible mothers through individual or small-group sessions. Each mother received education over approximately one month. Session frequency and duration were flexible and agreed upon by the educator and mother. Field activities were monitored through logbooks and photographic documentation.

Questionnaire Development and Validation

The questionnaire was developed from the module topics and supporting literature (Peng et al., 2021; Saraswati et al., 2026; Yang et al., 2024; Luthfia et al., 2021; Putri et al., 2026). Part A assessed mothers' knowledge, while Part B assessed positive parenting and communication practices. A clinical psychologist reviewed the content, and a native Sumbawa speaker checked the Indonesian and Sumbawa versions for clarity. In the post-test, there is an additional part C that asks for the mothers' opinions regarding the impact of the Ginarasa program education.

A pilot test with 20 participants was used to assess clarity and internal consistency. The initial knowledge section had low internal consistency (KR-20 = 0.442), mainly because several questions were too easy, so the items were revised into more practical parenting situations. Part B showed acceptable initial internal consistency (Cronbach's alpha = 0.711), with wording changes suggested for two items. Because a second full reliability test could not be conducted, cognitive testing was carried out with five new respondents to check clarity, cultural suitability, and comfort in answering.

Outcome Measures and Data Collection

The primary outcome of this research was the change in mothers' knowledge scores from pre-test to post-test. The secondary outcome was the change in positive parenting and communication scores.

Part A contained five true-or-false knowledge questions, scored 1 for a correct answer and 0 for an incorrect answer, giving a total score of 0–5. Part B contained six positively worded parenting and communication items rated as Never = 1, Sometimes = 2, Often = 3, and Always = 4, giving a total score of 6–24. Higher scores indicated better practices. The pre-test was completed before the first educational session, and the post-test after approximately one month of education.

The post-test also included two open-ended questions (part C) about changes in communication and mother-adolescent relationships. These responses were used to add context to the quantitative findings rather than as a separate qualitative study.

Data Analysis

Quantitative data were analyzed using IBM SPSS Statistics version 26.0. Pre-test and post-test scores were compared using paired-samples t-tests with $p < 0.05$. Open-ended responses were reviewed thematically to identify common experiences and changes reported by the mothers.

RESULTS AND DISCUSSION

Participant Characteristics

A total of 44 mothers completed both pre-test and post-test. All mothers also answer both open-ended question. The mothers' mean age was 42.68 ± 5.03 years, ranging from 31 to 52 years. Most had completed senior high school (45.5%) or junior high school (36.4%).

The adolescents' mean age was 15.16 ± 1.82 years. Most were aged 14–17 years (72.7%), and 54.5% were male. Table 1 shows the characteristics of the mothers and their adolescents.

Table 1. Characteristics of mothers and their adolescents

Characteristic	N = 44
Maternal age, years	
Mean ± SD	42.68 ± 5.03
Range	31–52
Maternal education, n (%)	
Primary school	6 (13.6)
Junior high school	16 (36.4)
Senior high school	20 (45.5)
Bachelor's degree	2 (4.5)
Adolescent age, years	
Mean ± SD	15.16 ± 1.82
Range	11–18
Adolescent age group, n (%)	
Early adolescence, 11–13 years	7 (15.9)
Middle adolescence, 14–17 years	32 (72.7)
Late adolescence, 18–19 years	5 (11.4)
Adolescent sex, n (%)	
Male	24 (54.5)
Female	20 (45.5)

Note. SD = standard deviation. Age groups were based on Cheng et al. (2024), who used 10–13 years for early adolescence, 14–17 years for middle adolescence, and 18–21 years for late adolescence. These groups were restricted to the study's eligible age range of 11–19 years. All five adolescents in the late-adolescence group were aged 18 years.

Changes In Knowledge and Parenting Scores

The mean knowledge score increased from 2.82 ± 1.11 before education to 5.00 ± 0.00 afterward. The mean increase was 2.18 points (95% CI: 1.85–2.52; $p < .001$).

The mean parenting and communication score increased from 16.41 ± 4.03 to 23.07 ± 0.73. The mean increase was 6.66 points (95% CI: 5.36–7.95; $p < .001$). Cohen's dz was 1.97 for knowledge and 1.56 for parenting and communication (Table 2).

Table 2. Comparison of pre-test and post-test scores

Outcome	Pre-test, mean ± SD	Post-test, mean ± SD	Mean change (95% CI)	p value	Cohen's dz
Knowledge, score 0–5	2.82 ± 1.11	5.00 ± 0.00	2.18 (1.85–2.52)	<0.001	1.97
Parenting and communication, score 6–24	16.41 ± 4.03	23.07 ± 0.73	6.66 (5.36–7.95)	<0.001	1.56

Note. N = 44 for both outcomes. Changes were calculated as post-test minus pre-test. CI = confidence interval. Two-sided paired-samples t-tests were used. Cohen's dz was calculated by dividing the mean change by the standard deviation of the paired changes. Higher scores indicate greater knowledge or more frequent self-reported positive parenting and communication practices.

The differences between pre-test and post-test scores were not normally distributed. Shapiro–Wilk tests gave $p < 0.001$ for knowledge and $p = 0.002$ for parenting and communication. We therefore also checked the results using Wilcoxon signed-rank tests. Both outcomes remained statistically significant (both $p < 0.001$).

The median knowledge score increased from 3 (Q1–Q3: 2–3) to 5 (5–5). The median parenting and communication score increased from 17 (14.75–19) to 23 (23–24).

Changes In Individual Scores

Knowledge scores increased in 40 mothers (90.9%) and remained unchanged in four mothers (9.1%). These four mothers had already scored 5/5 before education. No mother had a lower knowledge score at post-test.

Parenting and communication scores increased in 43 mothers (97.7%). One mother's score decreased from 24 to 23 (Table 3).

Table 3. Direction of individual score changes

Outcome	Increased, n (%)	Unchanged, n (%)	Decreased, n (%)
Knowledge	40 (90.9)	4 (9.1)	0 (0.0)
Parenting and communication	43 (97.7)	0 (0.0)	1 (2.3)

Note. N = 44 for each outcome. Changes refer to total scores. All 44 mothers reached the maximum knowledge score at post-test. For parenting and communication, one mother (2.3%) had the maximum score before education, compared with 12 mothers (27.3%) afterward.

Responses To Individual Questions

Before education, the percentage of correct answers to the knowledge questions ranged from 31.8% to 81.8%. All mothers answered all five knowledge questions correctly at post-test. The largest increase was seen in A2, which asked whether responding harshly was the best way to deal with an adolescent who argues. Correct answers increased from 31.8% to 100%.

For the parenting and communication questions, the percentage of mothers answering "Often" or "Always" ranged from 45.5% to 63.6% before education. This reached 100% for all six questions at post-test. The largest increase was seen in B5, concerning agreed rules for digital device use (Table 4).

Table 4. Responses to individual questions before and after education

Item	Content of the question	Pre-test, n (%)	Post-test, n (%)
A. Knowledge: correct answers			
A1	Brain development and adolescents' emotional or behavioural responses	36 (81.8)	44 (100.0)
A2	Whether a harsh response is appropriate when an adolescent argues	14 (31.8)	44 (100.0)
A3	Different influences on adolescent risk behaviour	19 (43.2)	44 (100.0)
A4	Parents' involvement in adolescents' online activities	25 (56.8)	44 (100.0)
A5	Allowing time for sadness before discussing ways to improve studying	30 (68.2)	44 (100.0)
B. Parenting and communication: "Often" or "Always"			
B1	Listening until the adolescent finishes speaking	28 (63.6)	44 (100.0)
B2	Knowing where the adolescent goes and with whom	26 (59.1)	44 (100.0)
B3	Discussing mistakes and finding solutions together	26 (59.1)	44 (100.0)
B4	Calming oneself before responding to difficult behaviour	21 (47.7)	44 (100.0)
B5	Having agreed rules for phones, social media, or online games	20 (45.5)	44 (100.0)
B6	Giving support before reprimanding or correcting the adolescent	26 (59.1)	44 (100.0)

Note. N = 44 for every item. The descriptions are shortened English summaries of the questions. For Part A, the table shows correctly scored answers. For Part B, "Often" and "Always" were combined only for this descriptive table. All four response levels were retained when calculating total scores. No separate significance tests were performed for individual items

Internal Consistency

In the final study sample, the pre-test knowledge section had a KR-20 value of 0.127. The pre-test parenting and communication section had a Cronbach's alpha of 0.733. These values were calculated from the main study data and were separate from the earlier pilot results.

Internal consistency could not be calculate for the post-test knowledge section because all mothers gave correct answers to every item.

Mothers' Views On Changes In Their Relationships and Communication

All 44 mothers answered Question C2. Question C2 is about whether the relationship between the mother and the adolescent improved or not. Forty-three mothers (97.7%) clearly described their relationship or communication as better or closer. One mother (2.3%) said that communicating with her child felt easier and more comfortable, without directly describing the relationship as better. This response was recorded separately as an implied

improvement. No mother described the relationship or communication as unchanged or worse (Table 5).

Table 5. Mothers' views on relationship or communication changes in C2

Response category	n (%)
Improvement clearly described	43 (97.7)
Improvement implied through greater ease and comfort	1 (2.3)
No change reported	0 (0.0)
Worsening reported	0 (0.0)
Missing response	0 (0.0)
Total	44 (100.0)

Note. The implied-improvement response was from participant P43. Categories were based on the meaning of the written responses. They represent mothers' views at post-test, rather than changes measured using a pre-test and post-test relationship scale.

Experiences Described By Mothers

All mothers also answered Question C1. Question C1 is about changes in the mother's attitude or communication style toward the adolescent. Some described changes in how they spoke to or responded to their adolescents. Others mainly described changes they had noticed in their children, or gave a general statement about improvement.

The responses to C1 and the explanations in C2 described calmer reactions, more listening, more discussion, and a better understanding of adolescents' needs. Some mothers also felt that their children were more open or that communication had become easier. Table 6 presents examples from these responses.

Table 6. Examples of experiences described in C1 and C2

Topic	Quotation translated into English	Participant and question
Responding more calmly	"Yes. I used to get angry immediately; now I no longer do."	P08, C1
Listening without interrupting	"Yes. I now make more effort to listen to my child and not interrupt straight away."	P31, C1
Discussing problems together	"Yes. After the education, I try not to impose my wishes too much on my child. I discuss things more and look for solutions together."	P16, C1
Understanding adolescents' needs	"Yes. I am beginning to understand that adolescents need attention and trust, so I try to listen more instead of only giving orders."	P17, C1
Noticing greater openness	"The relationship has become better because my child is more open about sharing things with me."	P10, C2
Feeling more comfortable during communication	"Yes, I feel more at ease and more comfortable when communicating with my child."	P43, C2

Note. Quotations were translated from the original Indonesian responses. Participant codes were used to protect identities. Topics summarize the content of the responses; they are not separate questionnaire scores. A response could relate to more than one topic.

Some mothers described progress as gradual or incomplete. For example, P15 said that the relationship was "better, although not perfect," while P01 described changes

happening “little by little.” These accounts describe mothers’ experiences and observations, rather than direct assessments of their adolescents.

GINARASA aims to promote family mental health through parenting education for mothers of adolescents. This study evaluated changes in mothers’ knowledge and self-reported parenting and communication practices as an initial step toward that goal. After the program, mothers had higher scores and described listening more carefully, responding more calmly, and discussing problems with their children. These findings are relevant to the program’s aim because they concern how mothers offer support in everyday family life. However, the study did not directly assess mental health, and it cannot confirm that GINARASA alone caused the reported changes.

Changes In Knowledge

The largest increase in correct answers was found in the question about responding harshly when an adolescent argues. Before education, only 31.8% answered this question correctly, compared with 100% afterward. This suggests that responding to disagreements may be an important topic for parenting education in this group. Several mothers also wrote that they were trying to speak more gently and avoid reacting with anger. These comments were consistent with the change in knowledge scores, although they did not independently confirm changes in behaviour.

All mothers received the maximum knowledge score at post-test. This may reflect learning of the material, but it also shows a ceiling effect: the questionnaire could no longer distinguish between mothers with different levels of understanding. The use of only five true-or-false questions may have limited its ability to assess deeper understanding. Familiarity with the same questions from the pre-test may also have contributed to the high scores. The results therefore show better performance on these questions, rather than complete understanding of adolescent development and parenting.

Changes In Parenting and Communication

The parenting and communication scores increased in 43 of the 44 mothers. Their written answers provided examples of what these changes might look like in daily life. Mothers described listening without interrupting, calming themselves before responding, and giving their children more opportunities to explain their feelings.

A study of the ICDP Youth Parenting Program also found that parents reported improvements in their parenting, while adolescents particularly valued their parents becoming calmer (Hoy-Petersen et al., 2026). This resembles the accounts of GINARASA mothers who described being more patient and less quick to become angry. However, the Norwegian study included adolescents’ views, whereas our findings came only from mothers. Including adolescents in future evaluations would help establish whether they notice the same changes.

The largest descriptive change among the parenting items concerned agreed rules for phones, social media, or online games. This may indicate greater attention to digital supervision after education. However, the question did not measure how the rules were applied or whether adolescents followed them. It also asked about having rules while using frequency-based response options. This wording should be reviewed before the questionnaire is used again.

Mothers' Views On Their Relationships

The responses to C1 and C2 added detail to the numerical results. Mothers described calmer conversations, greater openness, and feeling more comfortable when talking with their adolescents. Some also acknowledged that improvement was gradual or incomplete. These comments suggest that mothers were reflecting on their everyday interactions, although the short responses did not allow a detailed examination of their experiences.

The positive responses should still be interpreted carefully. Forty-three mothers clearly described improvement in C2, while one described greater ease and comfort without directly choosing "better." These were mothers' perceptions at post-test, not changes measured using a separate relationship scale. Mothers may also have wanted to give positive answers after receiving education. The agreement between the scores and written answers is encouraging, but both came from the same respondents and may share the same reporting bias.

Relevance To Family Mental Health

The changes reported by mothers help explain how GINARASA may contribute to its wider goal of promoting family mental health. Mothers described listening without interrupting, becoming calmer before responding, and offering support before correcting their children. These practices may help create a home environment where adolescents feel heard and supported. This interpretation is consistent with Peng et al. (2021), who found that parental emotional warmth was associated with better adolescent mental health.

The written responses also showed why communication matters to families. For example, P10 felt that her child had become more open about sharing things with her, while P43 felt more comfortable when communicating with her child. These accounts suggest that some mothers noticed a change in how they connected with their adolescents. One possible benefit of a more open relationship is that adolescents may find it easier to discuss difficult feelings or ask for support. However, this possibility was not directly tested in our study.

Family mental health includes the well-being of both adolescents and their caregivers. Although some mothers described calmer reactions, this does not necessarily mean that their own stress or emotional well-being improved. Similarly, greater openness does not establish that their children had fewer mental health difficulties. We did not assess these outcomes or collect adolescents' views.

The findings therefore support further evaluation of parenting education as part of family mental health promotion. They provide initial information about changes in parenting knowledge and reported communication, while the possible benefits for mental health remain to be studied. Future evaluations should include validated measures of adolescent well-being and maternal stress, alongside reports from both mothers and adolescents.

The Community Approach

GINARASA brought together a youth community (KORASA), PKK cadres, adult volunteers, and mothers. Its use of Indonesian and Sumbawa language, everyday parenting situations, and the values of Saling Jaga and Saling Tulung was intended to connect the material with local family life. Based on our field experience, many Ina'-Ina' (mothers) were a bit surprised at first, because there was never a program like this before in their area. At the beginning, they were very awkward and shy to interact with educators, but they became less because we did routine visits.

Cultural context deserves attention in parenting education. Yang et al. (2024) found that the relationship between parenting behaviours and adolescent well-being differed according to the cultural orientations of parents and adolescents. This supports considering both generations' perspectives when developing educational materials. However, our study did not separately test the contribution of local language, cultural values, or youth involvement, so we cannot identify which part of GINARASA contributed most to the observed changes.

Strengths And Limitations

The strength of this study was the availability of complete paired response from 44 mothers. This allowed us to compare each mother's scores before and after education. The open-ended questions also provided examples that helped explain the score changes. However, complete data in the submitted dataset should not be interpreted as evidence that every mother initially approached joined or completed the program.

Several limitations need to be considered. First, from the 74 PKK cadres and 4 helpers who joined the workshop, only 6 cadres and 1 helper actually went to the field to educate mothers. Therefore, some active KORASA members also went to educate mothers. During the program, there are also some cadres who had to move suddenly, so their respondents were taken over by the KORASA members.

Second, there was no control group. Repeated testing, other information received during the study, or changes in family circumstances may have contributed to the results. The large standardized changes therefore describe changes within this group and should not be treated as proof of the program's effectiveness.

Third, The knowledge questionnaire had limited internal consistency. The initial pilot test produced a KR-20 value of 0.442. The questions were then revised, and cognitive testing with five new respondents suggested that they were clear and culturally suitable. However, this did not establish the reliability of the revised questionnaire, and a second pilot reliability assessment could not be conducted before the main study because of limited time. An analysis of the pre-test responses from the 44 mothers in the main study also showed low internal consistency (KR-20 = 0.127). This limits confidence in the total score as a consistent measure of parenting knowledge. The increase in knowledge scores should therefore be interpreted cautiously, and the questionnaire needs further development and testing.

Fourth, the frequency and duration of the education sessions were not standardized, because they were agreed upon by each educator and mother. This happened because we faced a time problem in the field. Many mothers work as farmers from morning until sunset. Because of this, we could only talk to them at night for a very short time, since they usually already very tired. Therefore, the intensity of the intervention may have varied between participants. These limitations should be considered when interpreting the findings.

Fifth, parenting practices were self-reported. We did not observe family interactions or collect independent reports from adolescents. Higher scores may partly reflect greater awareness of the expected answers. The concentration of post-test responses in the highest categories also limited the questionnaire's ability to distinguish between participants.

Sixth, participants were selected through purposive sampling in one regency. The findings may not represent all mothers in Sumbawa or other communities. Most adolescents were aged 14–17 years, so the results provide less information about families with younger or

older adolescents. Mothers supported by the same educator may also have had similar experiences, and the main paired tests did not account for this grouping.

Finally, the study assessed outcomes after approximately one month of education. It did not establish whether the changes continued over time. The two written questions provided useful context but were not a substitute for detailed interviews.

Future studies should use a revised and tested questionnaire, include a comparison group, and collect follow-up data over a longer period. Reports from adolescents would also help assess whether changes perceived by mothers are noticed by their children.

CONCLUSION

Among the 44 participating mothers in Sumbawa, knowledge scores and self-reported positive parenting and communication scores increased following participation in the GINARASA program. Participants also reported adopting calmer responses, practicing more active listening, and engaging in more open communication with their adolescent children. These improvements were consistent with the program's objective of promoting family mental health through supportive parent–adolescent interactions. However, the study did not directly assess maternal or adolescent mental health outcomes. Furthermore, the absence of a control group, low internal consistency of the knowledge assessment, and reliance on maternal self-reports limited the strength of the conclusions and prevented causal attribution of the observed improvements to the intervention. Future research should incorporate controlled study designs, validated assessment instruments, longer-term follow-up, and reports from both mothers and adolescents to determine whether these improvements are sustained and translate into measurable benefits for family mental health.

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CONFLICT OF INTEREST

The authors declare a potential conflict of interest as we are actively involved in the KORASA community, which initiated the GINARASA program evaluated in this study. However, data collection and analysis were conducted objectively to assess the program’s outcomes.

AUTHOR CONTRIBUTIONS

All authors contributed to the preparation of this article. Fayha Haniya Fahri had the original idea for the GINARASA program, designed the research, and wrote the manuscript; Dwi Farel Putra Airlangga acted as the research coordinator in Sumbawa and led the data collection process in the field; Yarda Habiballa and Panji Ashar assisted in collecting data from the participants during the program. The last three authors also critically reviewed the final manuscript.

GENERATIVE AI STATEMENT

During the preparation of this manuscript, the authors used ChatGPT and Gemini strictly for language editing and proofreading to improve English readability, as English is not the authors' native language. However, the scientific content, methodology, results, and interpretations are our original work and we take full responsibility for the final manuscript.

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