



Building Impact Through Government Partnerships: the Naungan Kasih Positive Parenting Program in Malaysia

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Abstract

Naungan Kasih (NK) is a hybrid positive parenting program for parents and caregivers of preschool-aged children that blends digital, in-person, and remote support to strengthen parenting skills and promote children's healthy development. This paper documents the development, evaluation, and scaling pathways in which academic institutions, Malaysian government agencies, and international organizations collaborated as a consortium to translate evidence-based parenting principles into a locally feasible, culturally responsive delivery model. NK progressed through a three-phase implementation journey. It began by strengthening and standardizing in-person parenting support in response to a government request, then shifted to digital delivery during COVID-19 through ParentText and ParentChat, and is currently focused on embedding hybrid NK within the government preschool platform to support scalable, sustainable delivery. The development process involved formative assessment, co-design, and pilot testing of the program. NK is being tested through a cluster-randomized controlled trial with effectiveness outcomes including caregiver parenting practices, mental health, and relationship quality, as well as child developmental and behavioral outcomes, alongside process measures of reach and engagement. The scaling pathway leverages evaluation outputs by building a train-the-trainer system, supervision and quality-assurance mechanisms, standardized monitoring for continuous improvement, a technology-transfer process, and modular materials that can be adapted across local contexts without diluting core components. The NK collaboration framework demonstrates how a multi-stakeholder partnership can produce an evidence-informed, implementation-ready intervention, while simultaneously establishing the operational infrastructure required for rigorous evaluation and scalable delivery within government agencies.

Keywords Parenting intervention · Naungan Kasih · Partnerships · Randomized controlled trial · Malaysia

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Evidence-based parenting interventions grounded in prevention science generate substantial benefits for children by strengthening cognitive, language, and socioemotional development; promoting secure attachment; and reducing behavioral difficulties and the risk of maltreatment (Jeong et al., 2021; Rayce et al., 2017). Parenting programs can improve parent–child relationships and reduce harsh discipline (Backhaus et al., 2023; Jeong et al., 2021) and boost parents' confidence and sense of competence, while lowering stress and depressive symptoms, which supports mental health and everyday parenting (McCoy et al., 2020; Zahl-Olsen et al., 2023). The Positive Parenting Program (Triple P), Parent–Child Interaction Therapy (PCIT), and the Family Check-Up Online Program are among established evidence-based parenting programs that show consistent positive effects on parenting practices and children's

social-emotional or disruptive-behavior outcomes across rigorous evaluations (Li et al., 2021; Stormshak et al., 2025). They also support sustained impact by building transferable parenting skills and are designed for scalable delivery through service systems or digital formats, thereby strengthening long-term reach and maintenance beyond the intervention period. Overall, these programs strengthen a warm, supportive home environment that benefits children's development and family well-being.

Malaysia, like many other countries, is increasingly treating parenting support as a central strategy to promote healthy early childhood development, strengthen family well-being, and reduce longer-term risks. Naungan Kasih (NK), meaning "Protection Through Love," draws on social learning theory (Kaehler et al., 2016) and emphasizes participatory learning alongside positive, non-violent discipline. The program aims to foster responsive caregiving, promote closer parent-child relationships, improve family communication, and enhance child safety. NK is a scalable initiative that directly advances Malaysia's National KASIH Family Policy (DKKN) 2026–2030, which prioritizes family well-being. The DKKN strengthens the previous national family policy with a more integrated, life-course, and evidence-based approach, driven by five strategic thrusts, which are Upholding Marriage and Family Institutions, Strengthening Family Planning Capabilities, Enhancing Parenting Capacity and Quality, Supporting Inclusive Family Empowerment, and Improving Family Conflict Management. By strengthening responsive caregiving practices and positive family relationships, NK upholds Thrust 3. This thrust focuses on improving parenting competence, strengthening parenting knowledge and roles, promoting positive family values, and preventing social risks among children. This alignment also supports Malaysia's child policy direction, as articulated in the Child Act 2001 (2001) and the country's CRC commitments.

Past work suggests that despite growing interest in evidence-based parenting support, a persistent implementation gap remains between what research recommends and what is delivered in routine practice (Pinto et al., 2021). This disconnect often leads to programs that fail to fully resonate with target groups or secure sufficient stakeholder support, thereby limiting their effectiveness and sustainability. Bridging the research-to-practice gap in parenting programs requires sustained implementation support. This includes protecting fidelity through ongoing monitoring to prevent drift (Sigmarssdóttir et al., 2023) and strengthening real-world delivery via consistent monitoring and evaluation of implementation outcomes and sustainability (Pinto et al., 2023). It also depends on cross-stakeholder collaboration and meaningful community engagement to support feasible delivery and scale-up (Gwebu et al., 2024), alongside practical planning for resourcing and workforce capacity

(World Health Organization, 2024). Within this broader implementation agenda, partnership is not peripheral but a core mechanism through which evidence-based parenting programs are adapted, delivered, and sustained.

Partnership is central to the success and sustainability of evidence-based parenting programs. Research in child and family services shows that stronger parent-practitioner alliances and active caregiver participation are associated with better child developmental and behavioral outcomes, more positive parenting practices, greater parenting confidence, and higher treatment completion (Burney et al., 2024; Papalia et al., 2022). Related implementation research further indicates that collaborative delivery systems, including clear roles, shared goals, and feedback loops, strengthen program fidelity, engagement, and scalability (Harvey et al., 2023; Durlak & DuPré, 2008). Despite this evidence, less is known about how such partnerships are structured in real-world parenting programs delivered across multiple agencies in LMIC or middle-income policy settings. This paper, therefore, describes the NK collaboration framework across program development, evaluation, and scale-up, showing how multiple agencies and stakeholders adapted evidence-based parenting principles into a locally feasible and culturally responsive delivery model.

Context and Rationale

Child development is often constrained by interdependent early-life risks rooted in the home environment, with cumulative effects that intensify across the life course. This makes parenting support and evidence-based parenting interventions a practical leverage point for improving child and family well-being. Key pressures in the early-childhood ecosystem include uneven school readiness, caregiver stress, and growing digital exposure, especially in lower-income and rural communities (Isa et al., 2016; Sia et al., 2023). Learning outcomes also signal risk as an estimated 42% of children fall below minimum reading proficiency by the end of primary school (World Bank, 2021), and by age 15, 59% are low-performing in mathematics and 58% in reading (OECD, 2023). Developmental research consistently shows that parents play a central role in children's cognitive, socioemotional, and behavioral development, with parenting practices among the most influential proximal determinants of child outcomes (Doepke & Zilibotti, 2024; Vasiou et al., 2023).

Child safety concerns underscore the need to treat parenting as a preventive framework rather than a private family issue. National child protection caseload statistics indicate that the number of children formally identified by the child protection system as needing care and protection rose to 8536 in 2023, up from 6770 in 2022 (Department of Statistics Malaysia, 2024). Population studies provide

complementary evidence on children's exposure to violence and maltreatment. The National Health and Morbidity Survey shows that violent punishment remains widespread among Malaysian children aged four to five, with three in four exposed to violent punishment, including 32.7% experiencing both aggressive verbal and physical punishment (Institute for Public Health, 2022). Recent Malaysia-focused synthesis work also identifies socioeconomic stressors and entrenched norms that legitimize corporal punishment as key drivers, strengthening the case for prevention that targets everyday discipline practices, caregiver stress, and skills for non-violent regulation (Annuar & Rumaling, 2025). Research associates corporal punishment with worse behavior and school outcomes, while parenting programs can reduce physical and emotional violence, including in lower-resource settings (Backhaus et al., 2023; Cuartas, 2021; Cuartas et al., 2022).

The same ecological risk appears in school and peer environments. International benchmarking suggests bullying is not a peripheral issue in Malaysia. The International Results in Mathematics and Science (TIMSS) 2023 reports that a high share of Malaysian lower-secondary students experienced bullying, placing Malaysia among the higher-bullying education systems measured (International Association for the Evaluation of Educational Achievement (IEA), 2024). Parenting interventions are relevant here because they target proximal mechanisms that shape peer behavior and vulnerability, including emotion regulation, non-violent conflict management, parent-child communication, and caregivers' ability to coordinate early with teachers when problems emerge.

Online harms introduce an additional layer of risk that intersects with school life and extends beyond school boundaries. UNICEF's situational analysis identifies online safety among Malaysia's pressing protection priorities, alongside child marriage, gender-based violence, and vulnerabilities faced by children with disabilities and children from refugee and migrant families (UNICEF, 2020). Recent advocacy evidence also indicates that online sexual exploitation and abuse affect a measurable proportion of Malaysian adolescents who use the internet (Safe Online, 2023). Parenting support plausibly mitigates these risks through developmentally appropriate monitoring, clearer family rules for device use, safer help-seeking norms, and faster caregiver response when incidents occur, all of which are mechanisms linked to earlier disclosure and reduced harm escalation (Rahali et al., 2025).

In response to the above challenges, government, university, and NGO partners in Malaysia prioritized an evidence-based parenting support model that could be delivered at scale through routine community and early childhood services (Lachman et al., 2023; UNICEF, 2020). The Naungan Kasih Positive Parenting Program (NK) emerged from this

broader effort as a locally adapted parenting intervention designed to strengthen parent-child relationships, support parent well-being, and promote child development. Developed and implemented by the current research team in collaboration with local partners, NK was initially delivered face-to-face and has since been refined for preschool-linked and hybrid delivery. The program focuses on practical parenting skills that caregivers can use at home and that preschools can reinforce. These skills are linked to improved caregiver-child interactions, early child development, and early literacy (Jeong et al., 2021; Klass et al., 2024). NK also includes brief mindfulness-based stress reduction practices to support caregiver well-being, consistent with evidence that such practices can reduce parental stress and related symptoms (Peng et al., 2025). Because NK aims to improve family well-being, child development, and protection-related outcomes, scalability and interagency collaboration are essential. Wider delivery can improve reach, access, cost-efficiency, and program quality, while collaboration across agencies can support recruitment, referral pathways, community trust, and shared monitoring (Coore-Hall et al., 2023; McGrane Minton et al., 2024).

This focus on scalability matters because parenting programs often show promise in small pilots but struggle to create wider population impact. They may fail to sustain coverage, supervision, and referral linkages when implemented at a larger scale. NK addresses this challenge by working through government partnership and by embedding structured parenting support within public delivery platforms that connect homes, preschools or schools, and community services. Feasibility evidence suggests that NK helps caregivers move from reactive discipline toward pausing, self-regulation, and more deliberate responses to children's behavior (Lachman et al., 2023). These changes may improve everyday caregiver-child interactions, reduce behavior escalation and violence, and create better conditions for early learning. Therefore, government partnership is not only part of the program context. It is a key mechanism for translating evidence-based parenting support into sustained, system-level impact.

Malaysia's policy architecture makes this partnership feasible and timely. The National KASIH Family Policy (Kementerian Pembangunan Wanita, Keluarga dan Masyarakat, 2026), Child Act (2001) and its 2016 amendment (Child Act 2001, 2001; Child (Amendment) Act 2016, 2016), KPWK Strategic Plan 2021–2025 (Kementerian Pembangunan Wanita, Keluarga dan Masyarakat, 2026), Malaysia Education Blueprint 2026–2035 (Kementerian Pendidikan Malaysia, 2026), and LPPKN's digital parenting initiatives (Lembaga Penduduk dan Pembangunan Keluarga Negara, 2011, Lembaga Penduduk dan Pembangunan Keluarga Negara, 2022) collectively prioritize family well-being, safe schools, and foundational learning, providing

the mandate, infrastructure, and reporting lines needed for scale. Aligning an evidence-based parenting program with these systems can advance non-violent, supportive caregiving at the population level, with plausible downstream gains in school readiness, engagement, and achievement (and stronger protection pathways).

Strategic Partnership Collaboration Model

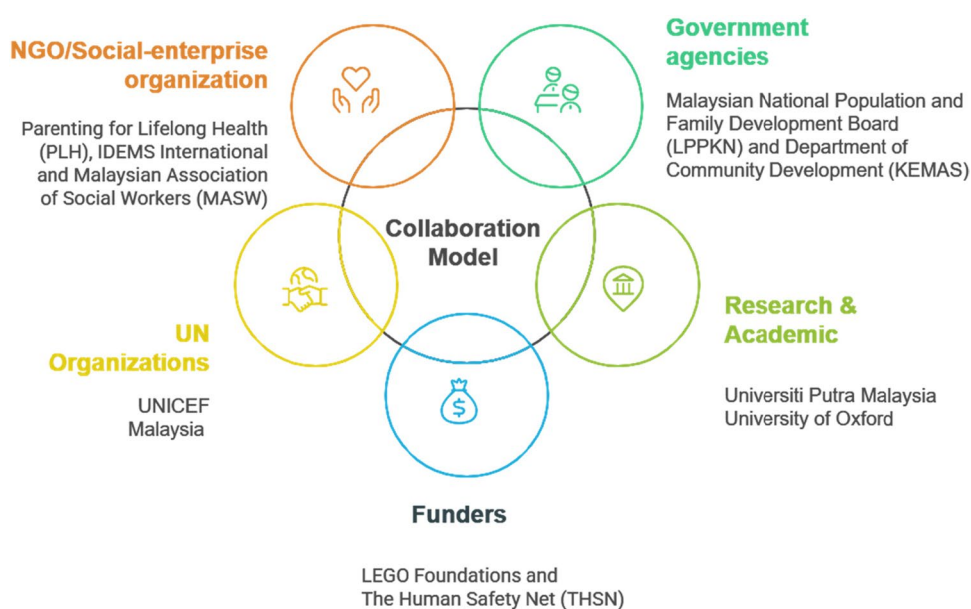
The NK consortium involves extensive collaboration between local and international partners. A 2018 partnership agreement between the Malaysian National Population and Family Development Board (LPPKN) and UNICEF marked the initial funding and introduction of structured evidence-based parenting interventions to Malaysia. Figure 1 illustrates the systemic partnership among key stakeholders, including government agencies, research and academic institutions, funders, UN agencies, and social enterprise organizations. The overlapping circles indicate that partners do not work in isolation. Each partner contributes a distinct role, and their shared intersection, the central “Collaboration Model,” is where the team coordinates decisions, data, and resources.

The networking of academic, governmental, and international partners collectively drives NK innovation and reach. Universiti Putra Malaysia (UPM) and the University of Oxford co-lead the research and training hub, ensuring NK’s design, implementation, and evaluation are evidence-based and culturally grounded. Working closely with government departments (LPPKN; KEMAS), UPM supports national delivery through preschool and family development platforms, where trained facilitators engage and support parents.

KEMAS or the Department of Community Development is an agency under the Ministry of Rural and Regional Development. KEMAS runs community programs, including 10,616 preschools in mostly rural areas of Malaysia. Complementing these partnerships, UNICEF Malaysia supports this effort by positioning NK as a cost-effective intervention to prevent violence against children. NK was introduced during UNICEF Parenting Month in June 2024, and UNICEF has continued to promote the program to advance positive parenting, caregiver well-being, and child protection in Malaysia.

Concurrently, the University of Oxford and the Global Parenting Initiative (GPI, www.globalparenting.org) — a 5-year research-within-implementation initiative — provide scientific and methodological expertise and promote international learning exchange across other GPI studies, also developing and testing hybrid-digital parenting programs (Baerecke et al., 2024; Ambrosio et al., 2024; Sim et al., 2025). Finally, Parenting for Lifelong Health (PLH, www.parentingforlifelonghealth.org), an international charity based in the UK, leads the overall project coordination and product management, with technological engineering support from IDEMS International. Supported by The Human Safety Net (THSN) and the LEGO Foundation, NK continues to evolve through digital innovation and inclusive program models that ensure long-term sustainability and scalability. To enhance the effort, the Malaysian Association of Social Workers (MASW) serves as our local partner, providing training and capacity building for private and non-governmental organizations in the program. Table 1 presents a description of each participating agency, followed by a brief overview of their respective roles in the NK consortium.

Fig. 1 Collaboration model of Naungan Kasih Positive Parenting Program in Malaysia. Note: The figure illustrates the systemic partnership among key stakeholders, including government agencies, research and academic institutions, funders, UN agencies, and social enterprise organizations



NK Positive Parenting Program Implementation and Innovation Journey

Initially, the NK program was designed to meet the needs of Malaysian parents raising children and adolescents aged 0 to 18 years. It aimed to strengthen positive parenting practices, reduce the risk of child maltreatment, and improve family relationships through a systems-oriented approach that could be scaled within existing public services. The original face-to-face version covered this broad age range and demonstrated promising outcomes.

For the current hybrid program, the focus has been narrowed to parents of preschool-aged children in response to the funders' priorities. However, the program remains applicable to children aged 2 to 9 years, as its core content is highly relevant to this developmental stage. The development, evaluation, and scaling of NK unfolded through a three-phase implementation and innovation journey. The following sections describe the purpose and outputs of each phase.

Phase 1: Responding to the Government's Request to Strengthen Existing In-person Programs

The initial in-person version of NK was co-developed in 2018 by UNICEF Malaysia, UPM, University of Oxford, Maestral International, Parenting for Lifelong Health, and LPPKN under the Ministry of Women, Family and Community Development, to deliver a comprehensive, adaptive, and inclusive approach to parenting support (Lachman et al., 2023). Building on a review of LPPKN's *Belaian Kasih* and *Mutiara Kasih* modules (Lachman et al., 2023), the redesigned curriculum also adapted content from the PLH in-person program suite to realign content based on key child development stages: Infants & Toddlers (0–2), Young Children (2–9), and (Pre) Adolescents (10–17) and integrated UNICEF/WHO best practices (Ward et al., 2014).

NK (*Naungan Kasih*, “Protection Through Love”) is grounded in social learning principles and foregrounds participatory learning and positive, non-violent discipline (Kaehler et al., 2016). It promotes responsive caregiving, strengthened parent–child relationships, improved communication, and child safety, supported by facilitator manuals and parent handbooks to strengthen implementation fidelity. To build delivery capacity, the team ran a 4-day facilitator training and a 2-day coach training for 25 LPPKN staff and five UPM researchers in 2018.

A feasibility pilot of the NK in-person program, involving 76 families in Shah Alam and Putrajaya (November 2018 to April 2019), produced preliminary evidence that NK can shift parenting practices and caregiver attitudes in measurable ways. Using a pre-post quantitative assessment alongside qualitative feedback, the pilot reported significant reductions in child maltreatment, including physical and emotional

forms, as well as decreased endorsement of corporal punishment and fewer child behavior problems (Lachman et al., 2023). These results suggest that NK targets harsh parenting behaviors while also offering positive parenting skills as more constructive alternatives, thereby strengthening prospects for sustained change beyond program completion.

Qualitative findings extended this evidence by clarifying how families experienced key program mechanisms and which needs remained insufficiently addressed. Caregivers reported greater engagement in children's early learning and daily routines, along with perceived improvements in parent–child connectedness, stress regulation, and mental well-being among female caregivers. Importantly, the qualitative component also served as a needs assessment by identifying priority topics that caregivers and facilitators deemed essential for local relevance but that the core units did not adequately address.

In response, four optional complementary modules were developed, namely, Sexuality and Reproductive Health, Child Protection, Children Living with Disabilities, and Digital Parenting. These additions were intentionally designed as modular and flexible rather than mandatory extensions, so implementers can sequence or select modules based on community priorities and delivery capacity, without automatically increasing program length in every setting.

Facilitator focus group discussions identified a key implementation constraint, namely concerns about increased workload when program delivery requires multiple sessions beyond facilitators' standard job responsibilities. These concerns informed the decision to design the new complementary modules as optional and modular rather than mandatory additions to the core program. This design allows implementers to expand content coverage through streamlined sequencing, phased rollout, or targeted delivery of selected modules based on local priorities and delivery capacity, while managing facilitator burden and maintaining program integrity.

Phase 2: Innovation During COVID-19 Including ParentText and ParentChat Remote NK

The COVID-19 pandemic exposed the limitations of relying solely on in-person, group-based delivery of the NK program and highlighted the increased risk of violence against children due to the Movement Control Order. At the same time, it underscored the critical role of parents and caregivers in providing consistent care, guidance, and emotional support for their children (Cluver et al., 2020). Building on cross-sector partnerships, the consortium convened government counterparts, faith leaders, community organizations, and digital implementation partners to co-develop and trial remote delivery strategies. Two digital innovations were developed to sustain parenting support during COVID-19:

Table 1 Collaborating agencies of Naungan Kasih

Agencies	Description	Roles
<i>Local agencies</i>		
Malaysian National Population and Family Development Board (LPPKN)	Federal statutory body under the Ministry of Women, Family and Community Development (KPWKM) that supports population and family development, including family planning education, parenting education, counselling, and reproductive health services	- Participate actively in the co-design of NK modules and Training of Trainers - Contribute to policy integration by aligning NK's evidence base with Malaysia's ongoing family policy initiatives
Department of Community Development, Ministry of Rural and Regional Development (KEMAS)	- Agent of development and change of rural communities - National community development agency operating TABIKA preschools and community programs across Malaysia. KEMAS offers nationwide reach into 10,616 preschool classes (2024)	- Primary national implementing agency for NK modules - Co-design of NK modules and Training of Trainers (ToT) - Integrate NK activities into its existing preschool framework and parent-teacher engagement structures
Universiti Putra Malaysia (UPM)	- One of Malaysia's five designated Research Universities, known for strong interdisciplinary research and government-industry partnerships that translate evidence into policy and practice - Department of Human Development and Family Studies, Faculty of Human Ecology is a leading unit in lifespan development and family science, specializing in parenting and early childhood, family relationships, family well-being, and family policy	- Co-lead hybrid NK design and trials, to establish rigorous study designs, fidelity/supervision systems, and shared indicators - Built delivery capacity at scale through structured ToT and ongoing technical support for facilitators and supervisors - Drove monitoring, evaluation, and partnership coordination, integrating data systems, learning loops, and cross-agency collaboration
Malaysian Association of Social Workers (MASW)	- MASW is the main professional body for social workers in Malaysia - They work to support social workers, promote good social-work practice, and advocate for the well-being of individuals, families, and communities	MASW serves as the lead training and capacity building partner for NGOs and community-based organizations, responsible for preparing, supporting, and coordinating facilitators and delivery partners
<i>International agencies</i>		
UNICEF Malaysia	UN child-rights agency country office that supports policy, systems strengthening, and evidence-based programming. Early catalytic supporter of positive parenting in Malaysia, offering technical input, communications reach, and government convening power to embed NK	- Provide the program's global lens and advocacy leverage - Ensure that NK is consistent with global standards in positive parenting and child protection
University of Oxford	Global research university with leadership in prevention and implementation science	Co-developer and research lead with UPM on NK Hybrid design and trials, ensuring methodological rigor, fidelity frameworks, and global comparability
Global Parenting Initiatives (GPI)	A multi-institution consortium advancing scalable, evidence-based parenting support, especially digital and blended solutions	Provides shared tools, learning networks, and technical assistance that NK leverages for rapid iteration, measurement, and cross-country lesson sharing
Parenting for Lifelong Health (PLH)	PLH is an international charity that develops and disseminates open-access, evidence-based parenting programs designed to prevent violence and improve child and family well-being, with a special focus on low- and middle-income settings	- Coordinates overall partnership across the consortium - Supports implementation design, facilitator Training of Trainers, quality assurance and supervision, and monitoring and evaluation using shared indicators and data standards so Malaysian results are globally comparable

Table 1 (continued)

Agencies	Description	Roles
IDEMS International (IDEMS)	• IDEMS is a technology social enterprise that develops sociotechnical digital infrastructure, products, and interventions that enable underserved communities globally to access evidence-based solutions and interventions	• Provides technological engineering support and expertise for the digital components of the NK program
LEGO Foundation	• The LEGO Foundation is a corporate foundation that aims to “build a world of playful learners” by strengthening society globally through funding and partnerships that give children, especially under 12, the chance to learn through play at home, in classrooms, and across systems	• Serves as a catalytic funder for NK, providing multi-year, milestone-based grants (pilot → state → national) that cover key cost lines: Training of Trainers, play materials/kits, digital content, and M&E
The Human Safety Net (THSN)	• Generali’s global foundation and Naungan Kasih’s philanthropy/innovation partner that funds parenting courses, family centers, and digital tools to enable low-cost, scalable hybrid delivery and strengthen national early-childhood capacity	• Provide multi-year, milestone-tied grants for NK’s hybrid delivery, including seed funding for rapid prototyping, localization, and A/B testing to improve reach and effectiveness

Table 1 depicts the descriptions of each participating agency, followed by a brief overview of their respective roles in the NK Positive Parenting Program

(1) ParentText channel delivering COVID-19 parenting content via a chatbot and (2) ParentChat, a facilitator-moderated online parent support group. Both models demonstrated cultural relevance, feasibility, and scalability, highlighting Malaysia’s readiness for blended and digital parenting interventions.

COVID-19 Parenting Text Message System (ParentText)

The ParentText chatbot was designed to deliver free parenting messages to parents via WhatsApp or Telegram using UNICEF’s open-source delivery platform, RapidPro. Content was derived from the in-person NK program and other PLH programs. It provided guidance on relationship-building, positive reinforcement, stress management, online safety, disability inclusion, and child protection. Parents could receive scheduled messages, access local resources, and participate in monitoring to assess engagement and impact. It helped parents address common parenting challenges by providing guidance tailored to their circumstances. An example is teaching parents to pause and use brief relaxation breathing when they feel overwhelmed, so they can regain control before responding to the situation. ParentText also offered a safeguarding protocol and delivered referrals to local support services, such as domestic violence and mental health hotlines, health clinics, and child protection agencies.

Online Parenting Groups (ParentChat)

As part of a five-country study led by the University of Oxford, a 4-week online adaptation of PLH content for parents of children ages 2 to 17, ParentChat was developed to provide online support for parents via WhatsApp or Telegram. Ten trained LPPKN facilitators conducted interactive sessions in group chats using text, audio, videos, and comics. The feasibility study on 87 parents (11 fathers, 76 mothers) aimed to assess changes in parenting behavior, stress, and child outcomes. Results showed meaningful pre–post improvements on several outcomes, including 31% reductions in total maltreatment events at post-test (IRR = 0.69 [0.58, 0.82], $p < 0.001$), 46% reduction in psychological abuse (IRR = 0.54 [0.44, 0.66], $p < 0.001$), and 23% reduction in parental stress (IRR = 0.77 [0.62, 0.97], $p = 0.025$), as well as improvements in child misbehavior (3.67 to 3.00; $\beta = -0.71$, $p = 0.043$) and behavior-problem ratings (decreased from 6.16 to 4.69; $\beta = -1.68$, $p < 0.001$). Parents reported that ParentChat enhanced parenting knowledge and skills, and were satisfied with the program structure, despite some technological challenges typical of digital delivery. Overall, this evidence of feasibility suggests that ParentChat, a digital parenting program, holds promise for reducing child maltreatment and improving child well-being in Malaysia.

Phase 3: Revisit Strategy with a Focus on Embedding Support Within the Government Preschool System

Building on the positive outcomes observed in the in-person NK program (Lachman et al., 2023), and recognizing the delivery challenges encountered, the team developed a hybrid delivery model, combining in-person, remote, and digital delivery. The NK Hybrid program was designed to retain core goals while improving feasibility, accessibility, and participant adherence, without compromising content quality or expected effectiveness. The move to NK Hybrid also aligned with the search for a government agency platform to support broader implementation and evidence, emphasizing the value of early intervention, which informed the decision to partner with KEMAS as the most appropriate setting for scale.

KEMAS, or the Department of Community Development, is an agency under the Ministry of Rural and Regional Development. Through its nationwide network of TABIKA KEMAS preschools, including 10,616 preschool classes in 2024, KEMAS offers a strong delivery platform for reaching children and parents, particularly in rural areas. UPM's partnership with KEMAS builds on longstanding collaboration in research, scholarly activities, community outreach, and student engagement related to parenting and child development. This existing relationship created a strong foundation of trust and shared priorities, facilitating KEMAS's involvement in the NK program.

Since the formal collaboration began in 2023 through KEMAS's Early Childhood Education Division, UPM and KEMAS have worked together on program development — Naungan Kasih hybrid model, delivery coordination, testing, facilitator training, and scaling. The partnership highlights the value of effective university-government collaboration in embedding evidence-based parenting support within existing national early childhood education systems.

The NK Hybrid model was developed in 2023 through a pragmatic, resource-efficient approach that acknowledges the financial and human resource constraints typical of the implementation environment. The design prioritized cost-efficiency, scalability, and adaptability while ensuring fidelity to core intervention principles. Targeting parents of preschool-aged children, the NK Hybrid model is currently undergoing feasibility and scalability assessment (Cooper et al., 2024). Co-design collaboration with KEMAS has enhanced program acceptance and impact. Ongoing sharing of research findings enables data- and feedback-driven adaptations, underscoring the importance of sustained engagement and flexibility. This partnership exemplifies effective integration of research and practice to improve child and family well-being at scale (Cooper et al., 2024).

The NK Hybrid Program consists of three components: (i) NKText (an improved version of the original ParentText), a chatbot delivering brief, scheduled parenting tips

personalized by child age; (ii) a teacher-facilitated WhatsApp support group offering light peer support and biweekly prompts; and (iii) an in-person onboarding session that builds trust, models core skills, and orients parents and caregivers to the digital tools. This setup leverages existing public-sector infrastructure, including teacher time and school schedules, aligning with regional guidance on scalable, government-integrated parenting supports.

NKText structures the parenting journey around eight core goals or courses: (1) Improve my relationship with my child, (2) Support my child's development, (3) Prepare my child for school success, (4) Provide structure, (5) Manage behavior, (6) Ensure safety and health, (7) Foster a healthy marital relationship, and (8) Build family budgeting and saving skills. Each goal is broken into short, 5-min lessons delivered via text, audio, and visual messages. Quality delivery of Naungan Kasih at scale is further enabled by FaciNK, a dedicated facilitator application developed by Parenting for Lifelong Health to support both in-person and remote delivery. The application standardizes biweekly content delivery, streamlines online communication with parents, and provides facilitators with access to program data to monitor participation and tailor follow-up support.

A pilot factorial experiment conducted from November 2023 to February 2024 tested the individual and combined effects of candidate NK Hybrid delivery components across 151 families in eight schools (Cooper et al., 2024). This design involved simultaneous assessment of multiple components, identifying which elements were most effective and how they combined, and enabling optimization before large-scale rollout (Collins, 2018). The pilot indicated improvements in child literacy and numeracy, alongside reductions in harsh parenting, parenting stress, and financial stress. It also showed that the most consistently effective package, ParentText plus one in-person session supported by facilitated WhatsApp groups, was acceptable and cost-effective for KEMAS, with an estimated cost of RM 28.24 (USD 6.83) per family (Cooper et al., in submission).

Building on these findings, a cluster-randomized controlled trial was conducted from July 2024 to February 2026 to rigorously evaluate NK Hybrid's effectiveness and process outcomes, enrolling 776 families across 50 KEMAS preschool sites. The program was delivered over 41–43 days. It involved KEMAS preschools serving families with preschool-aged children, with data collected at baseline, 1-month post-intervention, and at the 1-year follow-up. Analysis of the cluster-RCT data is currently underway. The findings will be used to guide program refinement, scale-up planning, and dissemination to academic, practitioner, and policy audiences. In parallel, NK has established scale-up infrastructure, including train-the-trainer systems, supervision and quality assurance, standardized monitoring, and modular materials that support local adaptation while

preserving core components. The revised model is now in the initial stages of scale-up within KEMAS, supported by the LEGO Foundation and The Human Safety Net.

Early evidence from a pre-post study of the in-person version of NK found reductions in overall child maltreatment, including physical and emotional abuse, as well as lower endorsement of corporal punishment. The study also reported improvements in child behavior problems and parental efficacy, while qualitative interviews highlighted better parent–child communication and tangible benefits for family relationships (Lachman et al., 2023). These findings provided proof of concept for NK’s content and helped prioritize outcomes for subsequent hybrid designs. Subsequent digital and hybrid pilots demonstrated strong NKText uptake, sustained engagement, and high participation in teacher-facilitated WhatsApp groups, alongside exploratory reductions in parenting stress and gains in caregiver outcomes; together, these results led to the selection of the NKText + WhatsApp + one in-person session package as the most acceptable and scalable configuration for KEMAS.

Qualitative findings suggest that teachers serving as program facilitators initially felt apprehensive about engaging parents on parenting matters, given that their routine responsibilities primarily center on children. However, the training and the availability of FaciNK increased facilitators’ confidence and helped delineate their facilitation role, strengthening their sense of capability in supporting parents. Participants also highlighted workload as a key implementation concern, suggesting that continued refinement of FaciNK may be important for reducing perceived administrative burden and sustaining facilitator engagement over time.

Evidence-Informed Strategies

Effective collaboration with government agencies requires deliberate alignment with existing institutional structures, decision-making processes, and service delivery systems. In NK, this meant working with government partners not only as implementation sites, but as strategic collaborators whose mandates, operational routines, and community reach shaped program design and scale-up planning.

The partnership with LPPKN, a government agency under the Ministry of Women, Family and Community Development, provided a strong foundation for aligning NK with national priorities on parenting and family development. Through content co-development, iterative piloting, and long-term evaluation, the consortium and LPPKN identified areas of complementarity between NK and existing family development programs. This collaborative process strengthened the program’s contextual relevance and clarified the roles of implementation partners.

Building on this foundation, the consortium expanded the collaboration in 2023 to include KEMAS, whose national preschool platform offered a clear pathway for reaching parents of young children. KEMAS’s established annual calendar, preschool curriculum, and nationwide delivery structure created practical opportunities to integrate positive parenting content into existing services rather than introduce NK as a separate external program.

A key strategy was sequenced engagement across governance levels. Initial discussions with KEMAS headquarters secured institutional buy-in, policy clearance, and role formalization. This was followed by coordination with state directors, district supervisors, teachers, and facilitators to address operational issues such as trainer selection, scheduling, logistics, and local adaptation. Regular meetings and official communication channels helped maintain accountability and resolve implementation challenges. The collaboration also strengthened ownership and program fit within KEMAS. By contributing to co-design activities, identifying contextual priorities, and providing feedback after piloting, KEMAS officers and teachers helped ensure that NK is responsive to the realities of KEMAS preschool settings. This contextual fit is important because KEMAS already had an established platform for parent engagement. Since 2001, KEMAS has implemented the Parenting Skills Workshop or *Bengkel Kemahiran Keibubapaan* (BKK) to provide parents and caregivers with knowledge, skills, and exposure related to parenting roles and responsibilities, as well as children’s healthy nutrition. This annual workshop is a one-off public lecture conducted all over the country at selected KEMAS preschool’s parent. Rather than replacing these existing initiatives, NK can be positioned as a system-strengthening enhancement to BKK through updated modules, improved delivery supports, expanded reach, and appropriate use of digital tools.

Overall, NK’s experience suggests scalable parental interventions require more than evidence-based content. They also require alignment with government mandates, formalized coordination, shared ownership, use of existing service infrastructure, and embedded capacity building. In KEMAS, training and mentoring for supervisors and facilitators, supported by national and state-level master trainers, helped safeguard fidelity while developing local champions for sustained implementation and continuous improvement.

Sustainability and Scale-Up Pathway

The NK consortium initiated scale-up activities in August 2025 and will continue to work together until December 2030 to gradually expand the Naungan Kasih@KEMAS Positive Parenting Program to 10,616 KEMAS preschools nationwide. This will be achieved by training KEMAS

teachers to serve as facilitators in delivering the program. Between 2025 and 2027, UPM will be responsible for training 300 master trainers. These trainers will, in turn, train facilitators who will implement the parenting program in KEMAS preschools. To date, a total of 500 facilitators (KEMAS preschool teachers) has been trained. Facilitator training will continue in phases until all KEMAS teachers have completed the required training by 2030.

The NK consortium proposes that, in the long term, the NK program will be formally integrated into the BKK and supported by government financing. This approach would maximize the efficiency of financial and human resources, ensuring the sustainability of the NK program by embedding it within existing systems and fully aligning it with the program's original goal. The success of this program will further strengthen KEMAS's role in advancing community development efforts in Malaysia.

In addition to the proposed structure of how NK can fit within the existing KEMAS structure, scaling NK depends on supporting technological systems to ensure reliable delivery, monitoring, and continuous improvement. NKText requires server support to host content authoring tools and webhooks for additional data processing, including open-source generation of course completion certificates, management of data pipeline processing, and deployment of Superset for dashboard monitoring. PLH provides the server and acts as the primary host for the entire NKText digital platform. This arrangement is temporary, and in the long term, KEMAS will need to provide its own server to support the implementation of NKText. Training and capacity building will also be necessary to ensure a smooth technology-transfer process. For server requirements, KEMAS can migrate to a self-hosted solution using government servers (e.g., through the National Digital Department), replicating the existing architecture and leveraging the current government database. PLH will provide full technical documentation, an open application programming interface (API) for data access, and support the full migration process.

Future expansion of the NK program could involve collaboration with other potential government agencies responsible for family and child welfare. These may include the Ministry of Health, which provides maternal and child health clinic services for children under 2 years of age, and government preschools administered by the Ministry of Education. The implementation strategy centers on embedding the intervention within existing institutional frameworks and national programs, thereby enhancing scalability and sustainability. Additionally, expanding the program's reach to include other agencies, parents of children across different age groups, especially adolescents, children with disabilities, as well as co-parenting and fathering, and diverse

family circumstances, is a key area of interest for future development.

Conclusion

The NK consortium demonstrates a strong model of collaboration between academic institutions, government agencies, funders and international partners, combining research expertise, strategic guidance, and global best practices to drive innovation and nationwide reach. LPPKN has played a key role as an early catalyst, supporting module development, pilot studies, and trainer capacity building. At the same time, KEMAS ensures effective implementation in preschool settings through an RCT, generating evidence and building local delivery capacity. UPM and the University of Oxford play a role in ensuring the research process is conducted systematically and with evidence-based validation. PLH provides overall coordination and product management with IDEMS supporting technological innovation. Finally, UNICEF Malaysia helps develop an enabling environment through policy engagement, financing early-stage development, and advocacy, thereby helping parenting programs in Malaysia gain the confidence of the government and stakeholders, particularly parents.

The scale-up strategy focuses on three core components: stakeholder-informed program content, structured training for trainers and facilitators, and robust management support at all levels. Success relies on engagement from top government management to front-line teachers, ensuring coordinated implementation and sustained impact nationwide.

The NK collaboration model with LPPKN and KEMAS offers a replicable framework for other government agencies, providing a pathway for future parenting programs that address diverse family needs, including children of different ages, children with disabilities, co-parenting and fathering, and other varied family circumstances. By embedding the program within existing institutional structures, NK exemplifies a scalable and sustainable approach to advancing family support and childhood development in Malaysia.

Author Contribution • Rumaya Juhari: conceptualization, methodology, writing — original draft. • Farah Zeehan Mohd Nadzri: investigation, formal analysis, writing — original draft. • Zainal Madon: conceptualization, writing — original draft. • Muslihah Hasbullah: writing — original draft. • Frances Gardner: conceptualization, methodology, writing — editing and review. • Hal Cooper: investigation, formal analysis, writing — editing and review. • Durgesh Rajandiran: project administration. • Laurie Markle: conceptualization. • Nurhilmayani Ismail: writing — original draft, project administration. • Chiara Facciola: conceptualization. • David Stern: conceptualization. • Zairudin Mat Zuini: conceptualization, supervision. • Hairil Fadzly Md Akir: conceptualization, supervision. • Saskia Blume: conceptualization, supervision. • Jamie M. Lachman: conceptualization, writing — review and editing, funding acquisition

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Data, Material, or Code Availability Data available upon request. The datasets generated and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethical Approval Ethical approval for this study was obtained from the Ethics Committee for Research involving Human Subjects of Universiti Putra Malaysia (JKEUPM), approval number JKEUPM-2024-498 and the Social Sciences and Humanities Interdivisional Research Ethics Committee (SSH IDREC) University of Oxford, approval number R94406/RE001. The study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki and its later amendments.

Consent to Participate Participation was voluntary. Before participation, all potential participants were provided with clear information about the study's purpose, procedures, possible risks, and benefits. They were allowed to ask questions and were informed of their right to withdraw at any time without penalty. Written informed consent was obtained from all participants, or from parents/caregivers for minors, before data collection commenced.

Clinical Trial Registration Not applicable.

Conflict of interest The authors declare no competing interests.

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