Volume 5 Nomor 2 (Sept 2026) **E-ISSN: 2962-6145**
https://jurnal-inais.id/index.php/EMRR

EMRR
EDUCATIONAL MANAGEMENT REVIEWS AND RESEARCH

HOLISTIC INTEGRATIVE MANAGEMENT IN EARLY CHILDHOOD EDUCATION: A SYSTEMATIC LITERATURE REVIEW OF MODELS, IMPLEMENTATION, AND SERVICE INTEGRATION

Dewi Sukma Muharromi[1]*, Asep Yanyan Setiawan[1], Hasim Bisri[1], Cucu Nurjanah[1], Agus Mulyanto[1], Ade Tutty R. Rosa[1]
[1] Educational Sciences, Universitas Islam Nusantara, Bandung, Indonesia
wiebigst87@gmail.com*

ABSTRACT

This study aims to analyze the development of holistic integrative management in early childhood education through a Systematic Literature Review (SLR). The review examined scholarly articles identified through the Scopus database covering the 2016–2026 publication period. The selection process followed the PRISMA stages and resulted in 23 primary articles and one additional article for thematic, narrative, and bibliometric synthesis using VOSviewer. The findings indicate that research on holistic integrative management has expanded particularly during 2021–2025, reflecting a shift from sectoral approaches toward multidimensional and cross-sectoral systems. The identified models include community- and family-based approaches, cross-sector coordination, stakeholder networks, and the use of technology and information systems. Implementation is supported by inter-organizational coordination, family and community engagement, policy support, and information capacity, while limited human resources, infrastructure, financing, data integration, and service access remain major barriers. Service integration encompasses education, health, parenting, nutrition, information, and stakeholder collaboration. These findings position holistic integrative management as a coordinated governance system centered on child development.

Keywords: *holistic integrative management; early childhood education; integrated services; cross-sector collaboration; Systematic Literature Review.*

INTRODUCTION

Early childhood education is a critical foundation for human development, as this period is marked by rapid growth across the cognitive, language, socio-emotional, moral, motor, and health domains. This development is shaped not only by the quality of learning but also by health, nutrition, family caregiving, protection, and environmental conditions. Early childhood services therefore need to be managed through an approach capable of connecting children's diverse needs in an integrated manner. A holistic integrative approach places the child at the center of a multidimensional service system that requires coordination among educational institutions, health providers, families, communities, and other stakeholders. Empirical evidence indicates that service integration can strengthen the continuity of support for children and families. Correll et al. (2023) showed that service coordination in home-visiting programs requires clear communication and role division among service providers. Dovel et al. (2021) likewise found that integrating early childhood development services into primary health care can improve families' experience in accessing the support they need. Accordingly, the management of early childhood services should be understood not merely as the delivery of learning,

but as a service system that integrates the dimensions of education, health, caregiving, and child well-being.

The literature shows a shift from sectoral approaches toward more integrated ones. The synthesis in this study reveals growing attention to holistic integrative services, particularly during 2021–2025. This direction is consistent with Dulal et al. (2021), who found that interventions combining stimulation and nutrition benefit child development more than routine services or nutrition-only interventions. In the Indonesian context, Siagian and Adriany (2020) showed that the holistic integrative approach to early childhood education holds strong potential for development but continues to face challenges in cross-sector coordination and implementation. These findings confirm that service integration is not merely a matter of combining programs, but requires governance, coordination mechanisms, and a clear division of roles.

Beyond the integration of education, health, and nutrition, the literature also points to a strengthening collaborative and participatory approach. Voss et al. (2023) emphasized the importance of inter-agency networks and community coordination in building preventive and sustainable early childhood services. Jose et al. (2021) likewise showed that co-locating education and health services can strengthen collaboration, although information sharing, joint planning, and professional development practices remain challenging. At the family level, parental involvement is essential, since families are not merely service recipients but also partners in supporting children's development. Holistic integrative management therefore needs to focus on strengthening partnerships, cross-professional communication, and service mechanisms centered on the needs of children and families.

Although research on holistic integrative services continues to grow, the literature still focuses more on the effectiveness of specific programs or interventions than on the management mechanisms that connect various services within a single, systematic framework. Some studies concentrate on health and nutrition, others on learning, caregiving, technology, or community-based services. This condition points to room for synthesizing how models, strategies, supporting and inhibiting factors, and forms of service integration can be managed more comprehensively. This study is therefore directed not only at identifying types of intervention, but also at mapping the patterns of governance and coordination that emerge in the literature.

This need is increasingly relevant because the success of early childhood services is strongly influenced by the quality of coordination, human resource capacity, policy support, family involvement, and the availability of information systems. Cross-country evidence shows that stronger governance is required for early childhood development services to be scaled up sustainably (Massetti et al., 2014). In the Indonesian context, evaluations of holistic integrative early childhood education implementation likewise show that service quality across dimensions is not yet consistently even, so that strengthening policy implementation and institutional capacity remains necessary (Murtoko et al., 2025). A literature synthesis connecting the dimensions of management, service, and collaboration is therefore important for developing more adaptive and sustainable early childhood education practices.

Building on prior studies, a synthesis is still needed that specifically connects research trends, service models, management strategies, supporting and inhibiting factors, and forms of integration across education, health, caregiving, nutrition, and stakeholder collaboration. This study employs a *Systematic Literature Review* (SLR) to systematically identify, compare, and synthesize the findings of previous research. This approach makes it possible to bring together research patterns scattered

across various disciplines within a single analytical framework, providing a more comprehensive understanding of holistic integrative management in early childhood education.

Based on this background, the present study aims to analyze the development of research on holistic integrative management in early childhood education through a Systematic Literature Review approach. Specifically, this study identifies research trends, examines management models and strategies, analyzes the factors that support and hinder implementation, and maps the forms of integration across education, health, caregiving, nutrition, and stakeholder collaboration services. The research questions addressed are: (1) how has research on holistic integrative management in early childhood education developed; (2) what models, approaches, and management strategies are used; (3) what factors support and hinder implementation; and (4) what forms does the integration of various services take in supporting early childhood development?

RESEARCH METHOD

This study employs a *Systematic Literature Review* (SLR) approach to analyze the development of research on Holistic Integrative Management in Early Childhood Education. The SLR approach was chosen because it allows the identification, selection, appraisal, and synthesis of prior research to be carried out transparently and systematically. The selection process followed the identification, screening, eligibility, and inclusion stages, visualized through a PRISMA diagram. The search was conducted in the Scopus database using a combination of keywords, including *holistic integrative early childhood education, integrated early childhood services, early childhood integrated management, childhood service coordination, multi-sector early childhood services, collaborative early childhood services, and holistic childcare management*.

The initial search yielded 221 articles. These were then screened by eliminating 5 duplicate articles, 75 articles outside the 2016–2026 publication range, 17 articles that did not meet the Q1–Q4 journal quality criteria, and 1 article without an abstract, leaving 123 articles for screening. The retrieval stage produced 32 articles that met the initial requirements, which were then assessed for content relevance based on theme, objective, research focus, and their relation to holistic integrative management in early childhood education. The final selection comprised 23 primary articles plus 1 additional article from another source, which together were analyzed in this study.

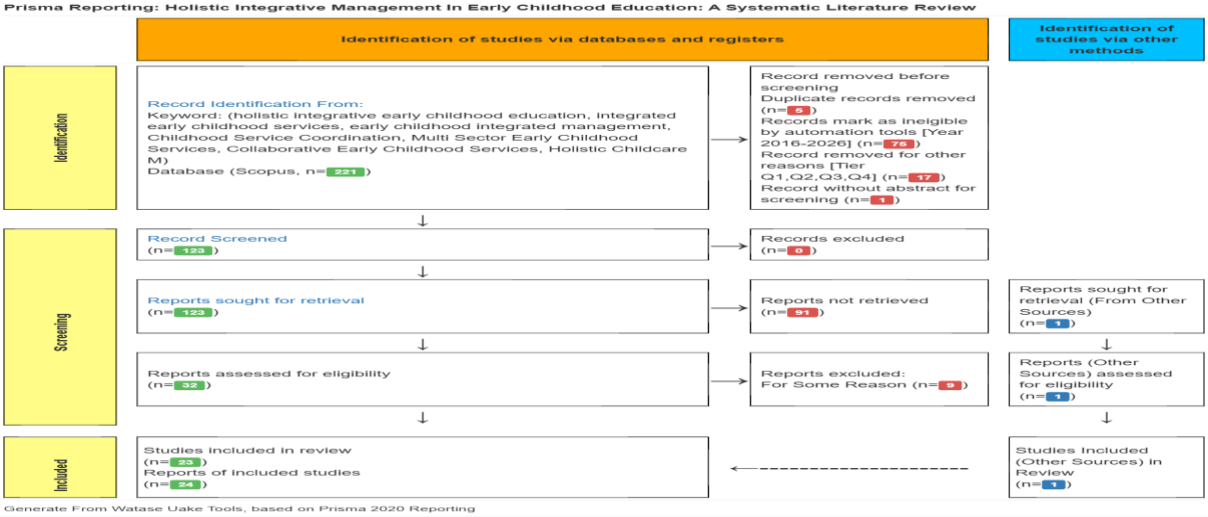

Figure 1. The article selection process was carried out using a PRISMA diagram to ensure transparency and systematic rigor in the data selection process.

The subjects of this study are not individuals or field respondents, but scholarly articles addressing holistic integrative services in early childhood education. The research sample consisted of international journal articles published between 2016 and 2026 and indexed in the Scopus database. The inclusion criteria comprised articles addressing the integration of education, health, nutrition, caregiving, child protection, and stakeholder collaboration services, the management of early childhood services, and cross-sector approaches to early childhood development. The exclusion criteria comprised articles irrelevant to the theme of holistic integrative management, articles without abstracts, duplicate articles, and articles that did not meet international journal publication quality standards. The research instruments consisted of a documentation sheet and an article synthesis matrix used to identify key information from each article, such as the research title, author names, year of publication, research location, research method, theory used, findings, factors supporting and hindering the implementation of integrated services, and forms of stakeholder collaboration in early childhood services. These instruments were used to facilitate the coding, categorization, and synthesis of research data. In addition, this study employed bibliometric analysis to map research trends based on year of publication, keywords, and the relationships among research topics using VOSviewer visualization. The bibliometric visualization results were used to strengthen the analysis of thematic developments in research on holistic integrative management in early childhood education. The research instruments thus served not only as tools for documenting data but also as tools for conceptual synthesis in the literature analysis process.

The data collection procedure was carried out in stages to ensure traceability and replicability. The first stage involved formulating the research focus and research questions; the second, determining the keywords; the third, conducting the search in Scopus; the fourth, screening articles based on the inclusion and exclusion criteria; the fifth, assessing abstracts and full texts; the sixth, extracting data into a synthesis matrix; and the seventh, conducting a bibliometric analysis using VOSviewer. The data were then analyzed using simple descriptive statistics, thematic synthesis, and narrative synthesis. Descriptive analysis was used to map trends based on year of publication and research characteristics, while thematic synthesis was used to identify patterns in service models, management strategies, supporting and inhibiting factors, and forms of service integration. The combined use of PRISMA and thematic–bibliometric synthesis is expected to enhance the transparency and traceability of the review process.

RESULTS AND DISCUSSION

Results

1. Trends in Research on Holistic Integrative Management in Early Childhood Education

The *Systematic Literature Review* (SLR) results show that research on holistic integrative management in early childhood education has grown increasingly strong over the review period. Based on the publication mapping, this increase is particularly evident during 2021–2025, with the most pronounced growth occurring in 2024 and 2025. This indicates that early childhood service integration is receiving growing attention in the international literature. The research focus has also broadened, moving from discussions of formal education toward the integration of education, health, nutrition, caregiving, child protection, family welfare, and *stakeholder* collaboration. The development of this research thus reflects a shift from sectoral service management toward a multidimensional, cross-sector approach.

This is evident in the study by Rao and Kaul (2017), which examined *Integrated Child Development Services* (ICDS) as a community-based service model integrating health, nutrition, preschool education, and family empowerment. Correll et al. (2023) demonstrated the importance of cross-sector coordination in *home visiting* programs, while Khan et al. (2017) showed the integration of health and early childhood education services through a community-based approach. These findings are reinforced by Dovel et al. (2021) and Dulal et al. (2021), who showed that cross-domain interventions are increasingly regarded as essential to comprehensively addressing children's developmental needs.

The bibliometric analysis also reveals connections among several themes, including *stakeholder perspective*, *clinical practice*, *partnership building*, *integrated child development*, and *early childhood education*. This connectedness indicates that research is not limited to the types of services provided to children, but also extends to relationships among actors, partnership building, service practices, and integration mechanisms. Health and nutrition themes also received considerable attention, particularly in the studies of Gaidhane et al. (2026) and Prabhu et al. (2025), while Meidani et al. (2022) showed the development of maternal and child health information systems as part of service management.

Based on this synthesis, the research trends can be summarized in Table 1.

Table 1. Research Trends in Holistic Integrative Management in Early Childhood Education

Aspect	Synthesis Findings	Development Direction
Publications	Research growth concentrated mainly in 2021–2025	Growing academic attention to integrative services
Service focus	Education, health, nutrition, caregiving, protection, and family welfare	Shift from sectoral to multidimensional approaches
Collaboration	Education, health, social services, government, community, and family	Strengthening of cross-sector coordination
Service models	Community-based, family-based, *home visiting*, and primary health care services	Strengthening of services close to children's environments
Technology	Health information systems and learning technology	Strengthening of data-driven service management
Bibliometric themes	*Partnership building*, *stakeholder perspective*, and *integrated child development*	Strengthening of collaborative and governance perspectives

Source: Researchers' synthesis based on the analyzed articles

2. Models and Approaches to Holistic Integrative Management

The synthesis shows that the implementation of holistic integrative management draws on several models adapted to the social context, policy environment, and service characteristics of each country. The community-based model through ICDS stands out as one of the most prominent approaches. Rao and Kaul (2017) showed that ICDS integrates health, nutrition, preschool education, and family empowerment services through a community-based service system. This implementation involves government, health workers, community cadres, and families, enabling services to reach children's needs more broadly.

This community-based approach is reinforced by family involvement. Jawahar and Raddi (2021) showed that maternal knowledge and family engagement influence the utilization of ICDS services. Khan et al. (2017) also demonstrated that primary health care services can be integrated with parenting counseling and child development stimulation. These findings indicate that families and communities are essential components in expanding the reach and sustainability of early childhood services.

The next model is management based on coordination and *stakeholder* collaboration. Correll et al. (2023) showed that inter-agency coordination is a key factor in the implementation of *home visiting*. Voss et al. (2023) showed that building a *prevention chain* is achieved through networks of education, health, social, and local government agencies. Jose et al. (2021) added that collaboration between education and health requires shared goals, joint planning, and clear role division. These findings indicate that service integration requires a governance mechanism capable of systematically connecting the various actors involved.

Based on this synthesis, the models and approaches to holistic integrative management can be summarized in Table 2.

Table 2. Models and Approaches to Holistic Integrative Management

Model/Approach	Characteristics	Key Stakeholders	Contribution
Community-based	Education, health, nutrition, and caregiving services brought closer to the community	Government, health workers, cadres, families	Expanding service access
Family-based	Families involved in the use and delivery of services	Parents/caregivers and service providers	Strengthening the sustainability of interventions
Cross-sector collaboration	Inter-agency coordination based on shared goals	Education, health, social services, government	Reducing service fragmentation
Community networks	Sustainable development of inter-agency networks	Government and service organizations	Strengthening service continuity
Technology and information	Use of information systems and learning technology	Educational institutions and service providers	Supporting monitoring and data-driven decision-making

Source: Researchers' synthesis

3. Integration of Education, Health, Caregiving, and Nutrition Services

The findings show that the integration of education, health, caregiving, and nutrition is a key characteristic of holistic integrative services. Gaidhane et al. (2026) showed that integrating caregiving and nutrition contributes to the cognitive, language, motor, and socio-emotional development of stunted children. Prabhu et al. (2025) showed that therapeutic nutrition services within ICDS programs contribute to the recovery of children with wasting and severe wasting. Regular developmental monitoring is an essential part of delivering these services.

In the educational domain, Coetzee et al. (2020) found a relationship among visual-motor ability, health status, family socioeconomic status, and children's academic development. This finding shows that children's educational development cannot be separated from their health status and family environment. McMurray (2020) likewise showed that integrating phonological, orthographic, and morphological instruction in language learning can support early childhood literacy skills.

Integration is also increasingly evident through technology and information systems. Ji (2021) demonstrated the use of technology in mathematics learning through an exploratory approach. Meidani et al. (2022) showed that maternal and child health information systems can support efficient data management, developmental monitoring, and service decision-making. Technology therefore functions not only as a learning medium but also as an instrument supporting service management and coordination.

4. Factors Supporting and Hindering the Implementation of Holistic Integrative Management

The synthesis shows that the main supporting factors include cross-sector coordination, family and community involvement, policy support, and the use of technology and information systems. Correll et al. (2023) showed that inter-agency communication and coordination support the effectiveness of *home visiting*. Voss et al. (2023) demonstrated the importance of community networks and government support, while Khan et al. (2017) showed the contribution of health workers, local government, and the community in supporting early childhood services.

Families are also a key factor. Jawahar and Raddi (2021) showed that maternal knowledge is associated with the utilization of ICDS services. Gaidhane et al. (2026) and Prabhu et al. (2025) demonstrated that caregiver involvement supports caregiving interventions, nutrition, and child development monitoring. Families therefore need to be positioned as partners within the service system, not merely as beneficiaries.

Conversely, the barriers identified include limited human resources, infrastructure, financing, information systems, service access, and family socioeconomic conditions. Rao and Kaul (2017) showed disparities in service quality and workforce capacity, while Voss et al. (2023) highlighted the need for adequate resources in developing service networks. Meidani et al. (2022) showed that fragmented data systems across institutions can hinder monitoring. Coetzee et al. (2020) demonstrated the relationship between socioeconomic conditions and service access, while Ji (2021) highlighted the need for infrastructure and user readiness in technology adoption.

Based on these findings, the supporting and hindering factors can be synthesized in Table 3.

Table 3. Factors Supporting and Hindering the Implementation of Holistic Integrative Management

Aspect	Supporting Factors	Inhibiting Factors	Managerial Implications
Cross-sector coordination	Inter-agency communication and coordination, and networks across education, health, social services, and government	Coordination not yet optimal and requiring more resources	Requires a clear coordination mechanism and division of roles
Family and community	Knowledge, participation, and involvement of families and communities	Limited time and capacity of families to access services	Families need to be positioned as service partners
Policy	Government and policy support	Limited financing support and implementation capacity	Requires sustained policy support
Human resources	Involvement of education and health workers and cadres	Workforce capacity and distribution not yet optimal	Requires strengthening of workforce competence and distribution
Infrastructure	Availability of service facilities	Limited and uneven facility distribution	Infrastructure strengthening as part of implementation strategy
Information systems	Data integration supports monitoring and decision-making	Fragmented data systems across institutions	Requires strengthened data integration
Technology	Supports learning and service management	Uneven readiness of systems, infrastructure, and users	Requires training and infrastructure support

Socioeconomic conditions	Community networks can extend service reach	Socioeconomic conditions can limit access	Strategies need to be sensitive to family conditions

Source: Researchers' synthesis based on the analyzed articles

Table 3 shows that the supporting and inhibiting factors essentially exist along interrelated dimensions. Coordination, for example, can become a strength when supported by clear communication and role division, but can turn into a barrier when institutional capacity and resources are limited. Likewise, technology can strengthen services when supported by adequate infrastructure and user competence, but can widen gaps when such readiness is unevenly distributed.

Discussion

1. Trends in Research on Holistic Integrative Management in Early Childhood Education

The review shows a shift in research orientation from sectoral to multidimensional approaches. This development indicates that early childhood education is increasingly understood as part of a system shaped by health, nutrition, caregiving, family, and the social environment. The rise in publications during 2021–2025 further reinforces this trend.

Compared with earlier studies such as Rao and Kaul (2017), the literature shows an expansion from community-based service models toward more coordinated service systems. Correll et al. (2023) demonstrated the importance of cross-sector coordination through *home visiting*, while Khan et al. (2017) showed the relationship between primary health care services and child development. This development indicates that integration no longer simply means providing several services within the same setting, but also encompasses inter-agency relationships and coordination processes that allow services to complement one another.

Attention to health and nutrition further broadens the scope of early childhood management. Gaidhane et al. (2026), Prabhu et al. (2025), and Coetzee et al. (2020) showed that health, nutrition, and socioeconomic conditions are linked to child development. These findings reinforce the view that early childhood education management needs to consider factors that lie beyond formal learning processes.

At the same time, technological advances show that service integration is beginning to enter the digital dimension. Meidani et al. (2022) demonstrated the role of information systems in service management, while Ji (2021) showed the use of technology in learning. Theoretically, these developments reinforce the view that holistic integrative management is a system that connects services, actors, and information. Practically, educational institutions need to expand their capacity for data management and service coordination.

These findings offer a conceptual contribution by showing that the development of early childhood management is marked not only by an increasing variety of interventions, but also by growing connectivity among actors and systems. However, these results should be generalized with caution, as the review was limited to articles indexed in Scopus during 2016–2026, and most of the studies analyzed originated from developing-country contexts. This limitation defines the boundaries of interpretation while also opening opportunities for future research to broaden the database coverage and compare the development of holistic integrative management across developing- and developed-country contexts.

2. Models, Approaches, and Management Strategies in the Implementation of Holistic Integrative Services

The community-based model shows that services can become more responsive when developed close to children's and families' living environments. ICDS is a prominent example, as it connects education, health, nutrition, and family empowerment through community networks. The findings of Jawahar and Raddi (2021) show that family involvement also shapes service utilization. The success of community-based approaches therefore depends not only on program structure, but also on the system's ability to build community participation.

The cross-sector coordination approach offers a broader perspective. Correll et al. (2023), Voss et al. (2023), and Khan et al. (2017) showed that service success is influenced by the ability of different sectors to work in a coordinated manner. Jose et al. (2021) highlighted the importance of shared goals, joint planning, and clear role division. Service integration should therefore be understood as a matter of governance, not merely program design.

The theoretical implication of these findings is the growing relevance of a *collaborative governance* perspective in early childhood education management. Collaboration requires clear structure, goals, communication, and division of responsibility. Practically, educational institutions can strengthen coordination forums, referral mechanisms, role division, and joint monitoring. However, this SLR cannot yet determine a single most effective model, as each model develops within different social and institutional contexts. Empirical testing in local contexts is needed to determine the effectiveness of each model.

Technology can also function as supporting infrastructure for integration. Information systems can connect data across services, while learning technology can support more interactive learning experiences. Digital transformation should therefore not be limited to the digitalization of learning, but should also be directed toward strengthening management, monitoring, and data-driven decision-making.

3. Factors Supporting and Hindering the Implementation of Holistic Integrative Management

Cross-sector coordination, family involvement, policy support, and community participation are the most consistent factors supporting implementation. The findings of Correll et al. (2023), Voss et al. (2023), and Khan et al. (2017) show that relationships among actors form an important foundation for service sustainability. The quality of integration is therefore determined not only by available programs but also by an organization's capacity to manage relationships and working networks.

Families occupy a strategic position, as some service interventions take place or continue within the home environment. Jawahar and Raddi (2021), Gaidhane et al. (2026), and Prabhu et al. (2025) showed the importance of caregiver knowledge and involvement for both intervention uptake and success. Theoretically, these findings reinforce family-based approaches in early childhood service management. Practically, institutions need to develop communication, education, and family engagement as part of the service system.

Barriers such as limited human resources, infrastructure, information systems, and service access reveal a gap between integration design and implementation capacity. Rao and Kaul (2017) showed problems of capacity and facility distribution, while Meidani et al. (2022) pointed to data integration challenges. Ji (2021) highlighted the need for user and technological infrastructure readiness, while Coetzee et al. (2020) showed the influence of socioeconomic conditions on service access.

Table 3 shows that supporting and inhibiting factors need to be viewed as part of a single implementation system. Institutions with strong networks, for example, are better able to integrate

services, whereas institutions with limited resources are more prone to fragmentation. The theoretical implication is that implementation capacity should be positioned as part of the construct of holistic integrative management. Practically, service strengthening should be directed toward improving service-provider competence, providing infrastructure, integrating data, supporting financing, and developing service mechanisms that are responsive to family conditions.

However, because this study uses an SLR approach, causal relationships between specific factors and implementation success cannot yet be established. The available findings are better understood as patterns that appear consistently across the literature. Future research should conduct empirical studies to examine the factors most decisive for implementation success and to develop indicators that can more objectively measure the level of service integration.

4. Forms of Integration Across Education, Health, Caregiving, Nutrition, and Stakeholder Collaboration Services

The review shows that service integration occurs at the program, institutional, and information levels. At the program level, integration is reflected in the relationships among education, health, nutrition, and caregiving. At the institutional level, integration involves government, educational institutions, health workers, social services, communities, and families. At the information level, integration is supported by data systems and technology.

ICDS illustrates how different types of services can be connected within a community system, while Khan et al. (2017) showed the integration of primary health care with parenting counseling and developmental stimulation. Gaidhane et al. (2026) and Prabhu et al. (2025) demonstrated the relationship among caregiving, nutrition, health, and developmental monitoring. These findings indicate that service integration can provide a more comprehensive response to children's needs.

Integration also extends to the learning domain. McMurray (2020) showed the integration of language components in supporting literacy, while Ji (2021) demonstrated the use of technology in learning. This indicates that the holistic integrative approach connects not only health and social services with education, but also integrates various strategies that support children's cognitive, language, and academic development. Based on this synthesis, the forms of service integration can be summarized in Table 4.

Table 4. Forms of Holistic Integrative Service Integration in Early Childhood Education

Integration Dimension	Form of Integration	Actors Involved	Function in Service
Education–health	Integration of education services with primary health care	Educational institutions, health workers, government	Supports children's holistic development
Education–nutrition	Integrating nutritional needs with child development services	Educational institutions, health workers, families	Supports children's growth and development
Caregiving–health	Parenting counseling and developmental stimulation linked to health services	Health workers, families, community	Strengthens caregiving practices and developmental monitoring
Health–nutrition	Therapeutic nutrition services and developmental monitoring	Health workers, families, service providers	Supports children's recovery and development
Education–literacy	Integration of phonology, orthography, and morphology in language learning	Teachers and educational institutions	Supports literacy development

Education–technology	Use of technology for exploratory and interactive learning	Teachers, educational institutions, children	Supports contextual learning
Stakeholder integration	Coordination among education, health, social services, government, community, and family	Cross-sector	Reduces service fragmentation
Information integration	Management and use of maternal and child health data	Service providers and relevant stakeholders	Supports monitoring and decision-making
Community-based integration	Combining various services through community service networks	Government, health workers, cadres, educational institutions, families	Expands service access and sustainability

Source: Researchers' synthesis based on the analyzed articles

Table 4 shows that service integration occurs at more than one level. The first level of integration takes place at the substantive level of services, namely the relationships among education, health, nutrition, and caregiving. The second level occurs at the institutional level through the involvement of various *stakeholders*. The third level occurs at the information level through the use of data systems and technology. This pattern shows that holistic integrative services have a systemic character, as their success requires connections among service types, implementing actors, and the information used in the monitoring and decision-making process.

These findings also reinforce the study's conceptual contribution that early childhood service integration cannot be adequately understood merely as combining several programs within a single institution. More substantive integration requires cross-sector coordination, family involvement, referral mechanisms, developmental monitoring, and information support that can be used to inform service decisions. From a management perspective, this integration positions coordination as the mechanism that links various services that previously operated separately along sectoral lines.

Practically, this framework can serve as a basis for educational institutions and policymakers to develop child needs mapping, referral mechanisms, family engagement, cross-sector coordination, developmental monitoring, and data-driven decision-making. However, its application needs to be adapted to institutional capacity and local context, as the articles analyzed originate from diverse countries and service systems. Future research should develop empirical studies to examine how this level of integration can be implemented and measured within specific early childhood education units. Overall, the four research questions reveal a consistent pattern: holistic integrative management is evolving from a sectoral service approach toward a multidimensional, collaborative, community-based, family-oriented, and technology-supported system. Its implementation success depends not only on the existence of programs, but on governance capacity to connect actors, resources, services, and information. Holistic integrative management in early childhood education should therefore be understood as a system that places children's development as its central goal while integrating various sectors and *stakeholders* in a coordinated and sustainable manner.

CONCLUSION

This study shows that holistic integrative management in early childhood education has evolved from a sectoral service approach toward a multidimensional, cross-sector system. The identified models include community- and family-based services, cross-sector coordination, *stakeholder* networks, and the use of technology and information systems. The integration of education, health,

caregiving, nutrition, and social support shows that child development needs to be managed through interconnected services. Implementation success is mainly supported by inter-agency coordination, family and community involvement, policy support, and information system capacity, while limited human resources, infrastructure, financing, data integration, and access gaps remain the main barriers.

Conceptually, this study confirms that holistic integrative management cannot be adequately understood merely as combining several types of services, but rather as a governance system that connects services, *stakeholders*, resources, and information around children's developmental needs at its center. These findings provide a foundation for developing more collaborative, family-based, community-based early childhood education policies and practices supported by data-driven decision-making. Future research should test these SLR findings through empirical studies across various institutional and regional contexts to determine the effectiveness of service integration models and to develop more specific indicators for measuring integration.

REFERENCES

Coetzee, D., Pienaar, A. E., & Van Wyk, Y. (2020). The relationship between visual motor integration and academic performance in early childhood development. Early Child Development and Care, 190(12), 1–12.

Correll, L., West, A., Duggan, A. K., Gruss, K., & Minkovitz, C. S. (2023). Service coordination in early childhood home visiting: A multiple-case study. Prevention Science, 24, 1225–1238. https://doi.org/10.1007/s11121-023-01558-6

Dovel, K., Kalande, P., Udedi, E., Temelkovska, T., Hubbard, J., Mbalanga, C., Bruns, L., Mulungu, S., Gupta, S., Richter, L., & Coates, T. J. (2021). Integrated early childhood development services improve mothers' experiences with prevention of mother to child transmission (PMTCT) programs in Malawi: A qualitative study. BMC Health Services Research, 21, 348. https://doi.org/10.1186/s12913-021-06342-2

Dulal, S., Prost, A., Karki, S., Saville, N., & others. (2021). Characteristics and effects of integrated nutrition and stimulation interventions to improve the nutritional status and development of children under 5 years of age: A systematic review and meta-analysis. BMJ Global Health, 6(7), e003872. https://doi.org/10.1136/bmjgh-2020-003872

Gaidhane, A., Telrandhe, S., Holding, P., Khatib, M. N., Patil, M., Gaidhane, S., Choudhari, S. G., Umate, R., Saxena, D., & Syed, Z. Q. (2026). Impact of an integrated parenting and nutrition intervention on growth and development in stunted children at 24 months: Evidence from the Stepping Stones programme in rural India. BMJ Global Health, 11, e017395. https://doi.org/10.1136/bmjgh-2024-017395

Jawahar, P., & Raddi, S. A. (2021). Awareness and utilization of integrated child development services among mothers in India. International Journal of Community Medicine and Public Health, 8(4), 1–7.

Ji, F. (2021). Development of an exploring system: An integrated approach to children's math education in China. IEEE Access, 9, 108350–108362.

Jose, K., Taylor, C. L., Jones, R., Banks, S., Stafford, J., Zubrick, S. R., Stubbs, M., Preen, D. B., Venn, A., & Hansen, E. (2021). The impact on service collaboration of colocation of early childhood services in Tasmanian Child and Family Centres: An ethnographic study. International Journal of Integrated Care, 21(2), 14. https://doi.org/10.5334/ijic.5581

Khan, M. A., et al. (2017). Integrated early childhood development care through health systems in Pakistan. BMC Health Services Research, 17, 1–10.

McMurray, S. (2020). Integrated phonological, orthographic, and morphological instruction in early childhood literacy development. Early Childhood Education Journal, 48(5), 1–11.

Mehrin, S. F., Hamadani, J. D., Salveen, N.-E., Hasan, M. I., Hossain, S. J., & Baker-Henningham, H. (2021). Adapting an evidence-based, early childhood parenting programme for integration into government primary health care services in rural Bangladesh. Frontiers in Public Health, 8, 608173. https://doi.org/10.3389/fpubh.2020.608173

Meidani, Z., Moravveji, A., Gohari, S., Ghaffarian, H., Zare, S., Vaseghi, F., Moosavi, G. A., Nickfarjam, A. M., & Holl, F. (2022). Development and testing requirements for an integrated maternal and child health information system in Iran: A design thinking case study. Methods of Information in Medicine, 61, e64–e72. https://doi.org/10.1055/a-1860-8618

Murtoko, M., Amalia, N. F., & Saputra, G. B. (2025). Evaluating the effectiveness of holistic integrative early childhood education policy implementation in Indonesia. GENIUS: Indonesian Journal of Early Childhood Education, 6(1). https://doi.org/10.35719/gns.v6i1.186

Prabhu, S., et al. (2025). Outcomes of integrated child nutrition interventions for wasting and severe wasting children in India. BMC Public Health, 25, 1–12.

Rao, N., & Kaul, V. (2017). India's integrated child development services scheme: Challenges for scaling up. Child: Care, Health and Development, 44(1), 31–40. https://doi.org/10.1111/cch.12531

Sharma, R., et al. (2017). Integrating maternal and early childhood development interventions for sustainable development goals. The Lancet Child & Adolescent Health, 1(2), 1–9.

Siagian, N., & Adriany, V. (2020). The holistic integrated approach of early childhood education and development in Indonesia: Between issues and possibilities. Advances in Social Science, Education and Humanities Research, 449, 188–192. https://doi.org/10.2991/assehr.k.200808.037

Voss, S., et al. (2023). Building prevention chains for integrated early childhood services through community collaboration in Munich. International Journal of Integrated Care, 23(3), 1–14.