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Strengthening Nutritionist Competence in Community Health Centers as a Strategy to Address Stunting: A Descriptive Qualitative Study

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***Abstract*— Nutritionist competence constitutes a critical determinant of effective community nutrition services and plays a strategic role in stunting reduction at the primary health care level. Despite national efforts to reduce stunting prevalence, limited empirical evidence has examined how nutritionist competencies are enacted in routine practice within resource-constrained primary health care settings. This study aimed to explore and analyze nutritionist competencies in terms of knowledge, technical skills, and communication abilities in implementing stunting management programs at a primary health center in eastern Indonesia. A descriptive qualitative approach was employed using in-depth interviews, observations, and document review involving 11 participants: three nutritionist (female, aged 30-42 years), five mothers of children with stunting (female, aged 40-41 years), the head of the primary health center (male, 57 years), and two district level nutrition program managers (female, aged 32-36 years). The findings reveal that while nutritionist demonstrate adequate technical competence in anthropometric assessment and intervention delivery, gaps remain in participatory communication, digital data reporting consistency, and structured supervision mechanisms. Strengthening nutritionist competencies through integrated human resource management strategies, continuous professional development, and supportive organizational systems is essential to enhance the effectiveness of stunting reduction efforts in primary health care settings.**

Keywords—***Nutritionist competence, stunting, community health center, human resource management***

I. INTRODUCTION

The competence of health workers, particularly nutritionist, is a fundamental component in the delivery of community nutrition services. Competence encompasses knowledge, skills, abilities, and personal attributes. Within the health service profession, competence is developed through pre service education, in service training, and work experience [1]. In the context of management development, competence has become a primary focus of training agendas, with many organizations designing or restructuring management strategies to emphasize competence as a key organizational asset [2]. In primary health care settings, nutritionist play a critical role in a wide range of activities, including nutritional status assessment, determination of nutrition diagnoses, intervention planning, counseling, education, monitoring, and service documentation [3]

In practice, competence consists of core components, namely knowledge, skills, and professional attitudes, as outlined by [4]. The competence of health workers in nutrition care is essential to ensure standardized service delivery, encompassing assessment, diagnosis, planning, and evaluation, as well as effective communication skills, an understanding of local cultural contexts, and interprofessional collaboration [5]. Effective communication is particularly important in conveying nutrition messages that can be clearly understood and applied by the community [6]. Consequently, the success of nutrition programs is highly dependent on the strength of nutritionist competency capacity in delivering services professionally and responsively.

The relevance of nutritionist competence becomes increasingly evident when linked to nutrition related public health problems such as stunting, which remains one of Indonesia's most persistent nutritional challenges, particularly

among children under five years of age. Stunting can hinder both physical growth and cognitive development. It is defined as a condition of growth failure resulting from chronic undernutrition, especially during the first 1,000 days of life (HPK) [7]. Nutritional deficiencies during early life may lead to permanent impairments, affecting not only children's current development but also potentially influencing future generations, with long term consequences for health, education, and economic productivity [8]. At the global level, stunting has become a major development concern and is included in the Sustainable Development Goals (SDGs), specifically Goal 2 (Zero Hunger), which emphasizes ending hunger, achieving food security, improving nutrition, and promoting sustainable agriculture, with Target 2 focusing on reducing the prevalence of stunting among children under five years of age [9].

Efforts to improve nutritional conditions are carried out by nutrition professionals who are responsible for the provision of nutrition services, including monitoring, evaluation, planning, implementation, and development of community nutrition programs aimed at improving individual and population health and well being [10]. As health professionals, nutritionist play a vital role in promoting healthy and nutritious diets by initiating community awareness campaigns, developing food based dietary guidelines using locally available foods, and providing tailored nutrition counseling to encourage healthy eating behaviors [11]. Accordingly, the role of health workers, particularly nutritionist, is essential in improving community nutritional and health status through nutrition improvement efforts to support the development of high quality human resources [12]. In addition to competence, the adequacy of nutritionist staffing also contributes to optimal service delivery. Based on Permenkes No. 6 [7], a community health center serving 1,000 children under five years of age requires at least one nutritionist. The service area of this Community Health Center includes 1,198 children under five, indicating a standard requirement of one to three nutritionist. Currently, four nutritionist are available, suggesting that staffing levels meet the minimum standard. However, the wide service coverage, the presence of 19 dispersed *posyandu*, and the diversity of field based responsibilities highlight the continued importance of strengthening nutritionist competence to ensure effective and equitable service delivery. At the district level, there are 70 nutritionist serving a target population of 28,977 children under five, of whom 62 have received training such as PMBA (Pemberian Makan Bayi dan Anak). This training is a key initiative aimed at strengthening nutrition knowledge and communication skills for family based nutrition counseling. The fact that not all nutritionist have participated in this training indicates that competency development remains a critical issue in improving the quality of nutrition services in Manggarai Regency.

Beyond stunting itself, the extent to which communities receive, understand, and apply nutrition information delivered by nutritionist is another important factor influencing the effectiveness of nutrition programs. This issue is closely related to nutritionist ability to simplify information, ensure relevance to local community conditions, and communicate messages in a clear and culturally appropriate manner. A study by [13] conducted in Ruteng District, Manggarai Regency, found that limited community knowledge and awareness regarding stunting prevention in Rai Village, Ruteng District, as well as insufficient family involvement in supporting child growth and development, contributed to the persistence of stunting in the area. These findings underscore the importance of nutritionist roles as agents of change who are expected to possess strong knowledge, technical skills, and communication abilities to deliver effective and culturally sensitive nutrition education.

Although previous studies have discussed the importance of health worker competence and the prevalence of stunting at national and regional levels, limited empirical evidence specifically examines how nutritionist competencies are implemented and manifested in daily practice within primary health care settings. Most existing research focuses on stunting prevalence, nutritional outcomes, or policy frameworks, while fewer studies explore the practical dimensions of nutritionist knowledge, technical skills, and communication competence in managing stunting cases at the community level. Furthermore, the extent to which these competencies influence community understanding and program effectiveness remains insufficiently documented. This gap highlights the need for in depth qualitative exploration of nutritionist competencies in real service contexts.

This study aims to explore and analyze the competencies of nutritionist at a Primay Health Center in terms of knowledge, technical skills, and communication abilities in the implementation of stunting management programs. By examining how these competencies are applied in daily practice, this study seeks to address the existing gap in empirical evidence regarding the practical role of nutritionist in primary health care settings.

II. METHOD

This study employed a descriptive qualitative research design to explore nutritionist competencies in the implementation of stunting management programs at a primary health center in eastern Indonesia. A qualitative approach was selected because it enables in depth exploration of how competencies are manifested in daily practice and perceived by multiple stakeholders. Given that competence is a multidimensional and context-dependent construct, qualitative methods allow for comprehensive examination of experiential, organizational, and interactional dimensions that cannot be fully captured through quantitative measures.

Informants were selected using purposive sampling based on their direct involvement in stunting-related activities. A total of 11 participants were included: three nutritionists (female, aged 30-42 years, with approximately 6-18 years of professional experience), five mothers of children with stunting (female, aged 40-41 years), the head of the primary health center (male, 57 years, with more than 25 years of service experience), and two district level nutrition program managers (female, aged 32-36 years, with 8-12 years of professional experience). The

nutritionist held Diploma or Bachelor's degrees in Nutrition and were responsible for growth monitoring, anthropometric assessment, nutrition education, and program coordination.

The competence of nutritionist was operationalized through three main dimensions: knowledge, technical skills, and communication abilities, referring to the WHO [14] nutritionist competency framework. Data were collected through in depth semi structured interviews, direct observation of service delivery at integrated health posts (*posyandu*) and home visits, and document review, including nutrition registers and digital reporting records. Data were analyzed using an inductive thematic approach involving coding, categorization, and iterative interpretation to identify patterns related to competency implementation and challenges. Trustworthiness was ensured through source triangulation across informant groups and verification of observational findings.

III. RESULTS AND DISCUSSION

The study was conducted at a Primary Health Center in a district in eastern Indonesia. The service area of the Primary Health Center covers nine urban villages (*kelurahan*) distributed across a wide geographic area, with 19 active *posyandu* serving as the frontline for monitoring child nutritional status and health. As of August 2025, this Primary Health Center recorded 1,898 children under five years of age as the primary target population for health programs, of whom 60 were still identified as experiencing stunting. To address these challenges, the Primary Health Center is supported by four nutritionist who play a critical role in implementing various nutrition intervention programs, including growth monitoring, parent focused nutrition education, and the provision of direct services to improve the nutritional status of children under five. Despite the limited number of nutritionist, Primary Health Center continues to strive to deliver optimal services in addressing nutritional problems, particularly stunting, within its service area.

TABLE I. INFORMANTS PROFILE

No	Name	Role / Position	Gender	Age (Years)	Education
1	T	Mothers of Stunted Children (36 Months)	F	41	SHS
2	G	Mothers of Stunted Children (36 Months)	F	40	JHS
3	E	Mothers of Stunted Children (23 Months)	F	41	SHS
4	B	Mothers of Stunted Children (15 Months)	F	40	ES
5	F	Mothers of Stunted Children (36 Months)	F	40	ES
6	C	Nutritionist	F	31	Bachelor Degree
7	Ew	Nutritionist	F	30	Bachelor Degree
8	H	Nutritionist	F	42	Diploma
9	E.K	Head of the Community Health Center	M	57	Bachelor Degree
10	Y	District Nutrition Program Manager	F	36	Master's Degree
11	V	District Nutrition Program Manager	F	32	Bachelor Degree

Nutritionist Competence in Intervention and Communication

The findings indicate that nutritionist in this Primary Health Center, demonstrated generally good technical and communication competence. Interviews with district level nutrition program managers revealed that the role of the Health Office is currently more focused on the provision of stunting related data, as most intervention activities are funded through non physical Special Allocation Funds (DAK non fisik). Nevertheless, nutritionist continue to carry out field based activities, including data collection, anthropometric measurement and weighing, data processing, and the determination of nutritional status among children under five.

Nutritionist had also participated in various training programs, such as SDIDTK and PMBA, which supported their skills in conducting anthropometric measurements, interpreting growth outcomes based on Z scores, and implementing early interventions. Field observations showed that nutritionist were able to assess nutritional status not only based on numerical indicators but also by considering the child's physical condition. In addition, the use of ILP anthropometric equipment at posyandu facilitated the process of nutritional status assessment.

From a communication perspective, nutritionist were considered capable of delivering information in a simple and understandable manner using the Maternal and Child Health (KIA) handbook as an educational medium. Education on growth charts was provided immediately after weighing activities. However, two way communication was not yet optimal, particularly during posyandu sessions, due to time constraints and the large number of beneficiaries. Nutritionist were more effective in eliciting feedback during home visits compared to posyandu activities. In addition, they were able to tailor nutrition recommendations to the socio economic conditions of families, such as suggesting alternative protein sources that aligned with household financial capacity.

Nutritionist Role in Improving Community Understanding

The findings indicate that nutritionist play a significant role in enhancing mothers' understanding of stunting. Nearly all mother informants reported that they first learned about stunting through nutrition education sessions provided by nutritionist at *posyandu*. This knowledge was subsequently developed through regular mentoring, both during *posyandu* activities and home visits. Although nutritionist consistently delivered

nutrition education, mothers' understanding of stunting varied. Some mothers understood stunting as a condition of undernutrition or delayed growth, while others still had difficulty explaining the concept accurately. These findings suggest that basic information delivery has been effective, however a deeper and more comprehensive understanding has not yet been evenly achieved.

Nutritionist mentoring also influenced changes in mothers's feeding practices, such as planning balanced meals, increasing the consumption of animal source protein, and improving children's overall dietary patterns. Mothers acknowledged that they gained substantial new knowledge regarding child feeding practices and nutritional requirements. With regard to exclusive breastfeeding, mother's understanding also differed some correctly understood exclusive breastfeeding as providing only breast milk without any additional foods or liquids, while others continued to combine breastfeeding with complementary foods due to limited understanding. The frequency of mentoring provided by nutritionist varied, however informants reported that the support was helpful in increasing their knowledge and encouraging positive behavioral changes within the household.

Mothers Assessment of Nutrition Education and Services Provided by Nutritionist

Mothers of young children provided positive assessments of the nutrition education and services delivered by nutritionist. They perceived the nutritionist as approachable, noted that the information was conveyed in a clear and understandable manner, and reported that the guidance provided could be practically applied in their daily lives. In addition to gaining new knowledge, the mothers felt more motivated to improve their children's dietary practices after receiving support from nutritionist.

They also noted that nutritionist offered realistic recommendations aligned with their economic capacities. For instance, while emphasizing the importance of animal source protein, nutritionist suggested affordable alternatives such as fish when families could not afford meat. Some mothers also reported receiving food assistance from the primary health center or related institutions, which helped them implement the recommended nutritional practices. Overall, they perceived nutritionist as effective companions who provided practical solutions, enhanced understanding, and offered motivation to maintain their children's nutritional status.

Challenges and Barriers in Program Implementation

The study identified several barriers that affected the implementation of stunting programs, ranging from human resource limitations and funding constraints to community related social factors. Limited availability of nutritionist emerged as a major challenge, particularly given the wide service coverage area of the community health center and the large number of integrated health posts (*posyandu*). As a result, not all anthropometric measurements could be conducted directly by nutritionist, and some tasks were delegated to community health volunteers whose competencies remain limited. This condition increased the risk of measurement errors. Funding constraints also posed significant challenges due to the program's heavy reliance on non physical Special Allocation Funds (DAK), while financial support from the local government budget was minimal. Consequently, nutrition interventions such as supplementary feeding programs could not be implemented on a sustainable basis.

Additional barriers were related to family caregiving practices and health seeking behaviors. Some families did not consistently apply nutritional recommendations due to competing household priorities. Low community participation in *posyandu* activities further hindered child growth monitoring. In addition, inconsistencies in nutrition data reporting affected the accuracy of data required for evidence based decisionmaking.

Effectiveness of Training for Nutritionist

The findings indicate that training programs such as SDIDTK and Infant and Young Child Feeding (PMBA) have made positive contributions to improving the competence of nutritionist. However, the effectiveness of these training programs has not yet been optimal, as they have not covered all health workers involved in *posyandu* activities. Nutritionist also reported that community health volunteers require refresher training to ensure accurate anthropometric measurements. In addition, several training activities were conducted through online platforms, which limited opportunities for hands on practice.

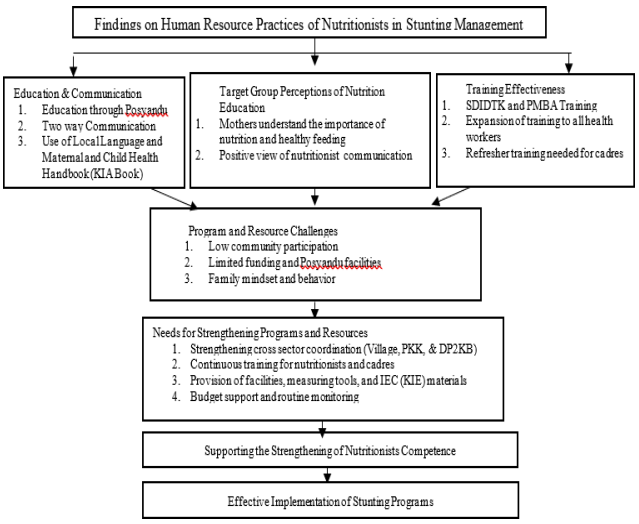

Figure 1. Implementation of Stunting Management Programs at Primay Health Center

The findings indicate that the competence of nutritionist at Primary Health Center has not yet been fully optimal, although several informants perceived that nutrition services were generally delivered well. In terms of knowledge, nutritionist demonstrated a good understanding of stunting, nutritional status indicators, and stages of intervention in accordance with nutrition service standards. However, the information conveyed

did not always translate into adequate understanding among the target population. This was reflected in statements from mothers of stunted children who believed that exclusive breastfeeding included foods such as tofu, tempeh, meat, and carrots for infants aged 0–6 months. This finding indicates discrepancies in the interpretation of nutrition education received by mothers. It underscores that nutritionist capacity to effectively transfer knowledge remains limited, and that educational communication competence must ensure that nutrition messages are clearly understood and appropriately applied by the community.

Regarding technical skills, nutritionist conducted anthropometric measurements, processed nutrition data, and interpreted results using growth charts in the Maternal and Child Health (KIA) handbook. This finding aligns with [15] who emphasized that competency based assessment in nutrition education should involve practical skills, including communication, collaboration, scientific competence, and professionalism. However, information from nutritionist informants revealed that some anthropometric measurements at *posyandu* were performed by community health volunteers, not all of whom were adequately trained. Inaccurate measurements conducted by insufficiently trained volunteers may compromise the quality and consistency of anthropometric data. When measurement accuracy is not ensured, the determination of nutritional status and the management of stunting cases are at risk of being suboptimal. This highlights the need to strengthen nutritionist competencies in technical supervision and continuous mentoring of community health volunteers.

Beyond service related technical skills, this study also identified inconsistencies in nutrition data reporting through the electronic Community Based Nutrition Recording and Reporting System (e-PPGBM). Information from district level nutrition program managers indicated that data entry was often delayed or incomplete, hindering timely monitoring of nutritional status at the district level. This issue reflects gaps in technical competence related to the use of digital nutrition information systems, which are critical components of evidence based nutrition program management. The challenges associated with e-PPGBM reporting suggest the absence of standardized work procedures in data management among nutritionist, thereby necessitating targeted training on recording, reporting, and the effective use of information technology.

Communication competence also emerged as an area requiring improvement. Although nutritionist reported using local languages when delivering education and counseling, they acknowledged that education was predominantly one way, with limited opportunities to assess whether messages were fully understood by the target audience. Understanding was often reassessed during home visits rather than during posyandu sessions. This communication pattern reflects limited feedback oriented interaction, which is essential to ensure accurate message reception and to allow nutritionist to explore prior knowledge, barriers, and perceptions among beneficiaries. Effective nutrition interventions rely not only on informative communication but also on participatory communication approaches. As noted by [16] two way communication occurs when interlocutors actively respond to one another and achieve shared understanding of the conveyed messages.

Geographical challenges within the Primary Health Center service area further influenced nutritionist performance. The wide distribution of posyandu sites made it difficult for nutritionist to attend all service points regularly. Consequently, certain activities lacked direct nutritionist supervision and were largely delegated to community health volunteers or other health professionals. Nutritionist attempted to address these challenges through home visits, which served as opportunities for more personalized education and reassessment of child feeding practices. The MCH handbook was also frequently used as an educational tool when time constraints limited counseling during posyandu sessions. This finding is consistent with [17] who emphasized the importance of strong interactions between nutritionist and clients, supported by positive engagement and the ability to provide timely solutions. Nevertheless, these efforts were sometimes limited by the absence of caregivers during home visits, resulting in education that did not always reach the intended target.

The study also revealed that training programs such as SDIDTK and PMBA contributed positively to improving nutritionist competencies. However, these trainings did not reach all nutritionist and were constrained by limited opportunities for field based practice and in depth learning. Nutritionist informants expressed the need for advanced training with direct, hands on practice rather than exclusively online formats, particularly in effective counseling communication. They also emphasized the need for training programs targeting community health volunteers. These training related gaps further indicate that competency development among nutritionist faces structural limitations requiring managerial attention from both the District Health Office and the community health center, particularly with regard to funding support for training implementation. As highlighted by [18] the measurement and development of public health workforce competencies must account for organizational factors such as workload, supervisory support, and opportunities for professional development.

Within the context of stunting as a major public health concern in the study area, strengthening nutritionist competencies represents a critical strategic solution. Stunting reduction requires not only technical interventions but also sustained behavioral change, appropriate feeding practices, and accurate family understanding. Therefore, nutritionist abilities in delivering effective education, conducting participatory communication, and ensuring data quality through e-PPGBM significantly influence the success of stunting management programs. This finding aligns with [19] who reported that training positively affects health workers' motivation, job satisfaction, and skill levels when accompanied by supportive supervision and mentoring. Strengthening nutritionist competencies through continuous training, enhanced communication capacity, structured volunteer mentoring, and optimized area based management can substantially improve the effectiveness of nutrition interventions.

Overall, the interview findings indicate that although nutritionist at Primary Health Center demonstrate strong commitment to service delivery, several competency related challenges require attention. Wide service coverage, high workload, limited training opportunities, and suboptimal educational communication reinforce the need for systematic competency enhancement. In addition, limited facilities such as insufficient nutrition education and communication (IKIE) media were perceived as barriers to effective community education. Educational aids including posters, leaflets, flipcharts, and anthropometric tools such as mid upper arm circumference (LILA) tapes were reported to be insufficiently available at many posyandu. The success of stunting reduction programs therefore requires inter institutional synergy. Collaboration among nutritionist, village authorities, women's organizations (PKK), family planning agencies (BP2KB), and local governments is essential to strengthen posyandu implementation and child growth monitoring.

In conclusion, strengthening nutritionist competencies constitutes a strategic approach not only to improving service quality but also to reducing stunting, particularly within Primary Health Center service area. To clarify the relationship between field findings, managerial aspects, and human resource development directions, a conceptual model illustrating strategies for building and strengthening nutritionist' competencies at the primary health care level is presented. This model provides a comprehensive overview of how research findings can be translated into capacity building strategies focused on developing nutritionist competencies.

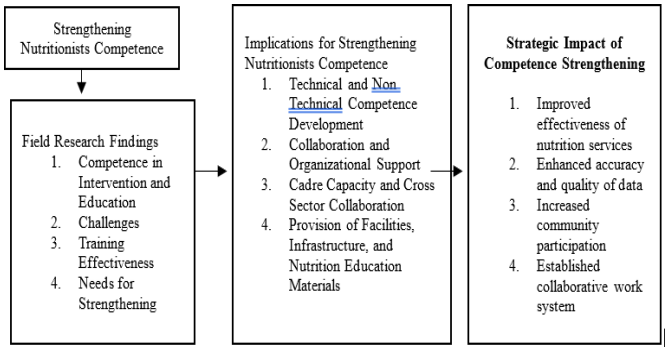

Figure 2. Model for Strengthening Nutritionist Competencies

The figure illustrates that strengthening nutritionist competencies must be undertaken in a comprehensive manner, encompassing the enhancement of technical skills, reinforcement of organizational support, and the development of a collaborative work culture. Through this approach, nutritionist are positioned not only as program implementers but also as change agents who can actively mobilize communities in stunting prevention efforts. These implications highlight that building nutritionist competencies constitutes an integral component of human resource management strategies in the health sector, with a strong focus on capacity development. Through continuous training, supportive supervision, and a conducive working environment, nutritionist performance can be enhanced, ultimately contributing to the reduction of stunting prevalence at both village and primary health care levels.

IV. CONCLUSIONS

This study contributes to the literature on community nutrition services by demonstrating the gap between competency based nutrition service theory and the actual implementation of stunting interventions at the primary health care level. The findings highlight that, although nutritionist at Primary Health Center have received formal training, the application of behavior change communication principles and integrated nutrition system approaches remains suboptimal. This research contributes empirically by linking nutritionist competencies, two-way health communication, and digital nutrition information systems to the effectiveness of stunting management, particularly within resource limited settings. From a practical and managerial perspective, the study implies that strengthening nutritionist competencies should be approached as a strategic managerial and policy intervention rather than solely as individual capacity building. Key implications include the need for case based nutrition counseling training, improved two way communication skills, continuous mentoring in digital reporting systems, better workload distribution, enhanced capacity of community health volunteers, and stronger local government funding to support program sustainability.

Despite these contributions, this study has several limitations. The research was conducted at a single community health center, which may limit the generalizability of the findings to other settings. In addition, the qualitative design relied on perceptions and experiences of informants, which may be influenced by subjectivity and contextual factors. The cross sectional nature of the study also limits the ability to assess long term changes in nutritionist performance and community behavior. Furthermore, this study focused specifically on professional competencies and did not examine broader organizational factors such as leadership approaches, generational workforce characteristics, or organizational culture, which may also influence workforce performance and service effectiveness.

Future studies are therefore recommended to adopt multi site and longitudinal research designs to examine the dynamic relationship between strengthened nutritionist competencies, family behavior change, and reductions in stunting prevalence. Further research could also explore how leadership strategies, workforce generational dynamics, and organizational climate interact with professional competencies in improving nutrition service delivery. Mixed method approaches are encouraged to quantitatively measure the impact of competency based interventions and assess the effectiveness of digital nutrition information systems in enhancing program accountability and outcomes.

REFERENCES

[1] N. Kak, B. Burkhalter, And M.-A. Cooper, "Measuring The Competence Of Healthcare Providers," 2001.

[2] R. ; Jubb, D. Robotham, R. Jubb, And : Management, "Competences In Management Development: Challenging The Myths Full Text."

[3] Permenkes, "Peraturan Menteri Kesehatan Nomor 26 Tahun 2013,"
2013.

[4] Kemenkes, "Keputusan Menteri Kesehatan Republik Indonesia Nomor Hk.01.07/Menkes/342/2020 Tentang Standar Profesi Nutrisionis," 2020.

[5] Suprapto, Herman Herman, And A.Syamsinar Asmi, "Nurse Competency And Managing Level Of Community Health Care Activities," *Jurnal Ilmiah Kesehatan Sandi Husada*, Vol. 9, 2020, Doi: 10.35816/Jiskh.V10i2.386.

[6] N. Ahmad, R. Si. Sakaraji, M. K. Nor, And Raja Mayang Delima Mohd Beta, "Studying The Importance Of Communication Management Strategies In Addressing Internal Communication Crises Among Customer Service Officers In Malaysia: A Conceptual Paper," *An International Journal*, Vol. 16, No. 2s, 2024.

[7] Kemenkes, "Permenkes Nomor 6 Tahun 2024," 2024, Accessed:
Nov. 21, 2025. [Online]. Available:
Https://P2.Kemkes.Go.Id/Wp-Content/Uploads/2024/09/Permenkes-Nomor-6-Tahun-2024.Pdf

[8] C. G. Victora *Et Al.*, "Maternal And Child Undernutrition 2 Maternal And Child Undernutrition: Consequences For Adult Health And Human Capital," *Www.Thelancet.Com*, Vol. 371, 2008, Doi: 10.1016/S0140.

[9] United Nations, "Goal 2: Zero Hunger – United Nations Sustainable Development Go
als,"
Https://Sdgs.Un.Org/Goals/Goal2#Targets_And_Indicators.

[10] E. Zulfiani, L. Layinatul Fuadah, F. Ilmu Kesehatan, And U. Islam Al-Ihya Kuningan, "Peran Gizi Dan Ahli Gizi Dalam Upaya Pembangunan Nasional Di Indonesia," *Jusindo*, Vol. 6, No. 1, 2024.

[11] S. Abu-Qiyas, H. Radwan, L. Cheikh Ismail, M. Alameddine, M.
Muayyad, And F. Naja, "Knowledge, Attitudes, And Use Of The Mediterranean Diet In Practice Among Dietitians In The United Arab Emirates: A Cross-Sectional Study," *Sci. Rep.*, Vol. 15, No. 1, P. 2168, Jan. 2025, Doi: 10.1038/S41598-024-82458-9.

[12] Mardiana And P. Nita, "Higeia Journal Of Public Health Research And Development Pemetaan Dan Perumusan Kompetensi Ahli Gizi Bidang Olahraga Info Artikel," 2019, Doi: 10.15294/Higeia/V3i2/30018.

[13] M. S. Banul, M. S. Manggul, S. A. N. Halu, C. F. Dewi, And C. C. Y. Mbohong, "Pemberdayaan Keluarga Dalam Pencegahan Stunting Di Desa Rai Kabupaten Manggarai, Nusa Tenggara Timur," *Jurnal Kreativitas Pengabdian Kepada Masyarakat (Pkm)*, Vol. 5, No. 8, Pp. 2497–2506, Aug. 2022, Doi: 10.33024/Jkpm.V5i8.6525.

[14] Who, "Global Nutrition Monitoring Framework : Operational Guidance For Tracking Progress In Meeting Targets For 2025," 2017.

[15] S. O'donovan, C. Palermo, And L. Ryan, "Competency-Based Assessment In Nutrition Education: A Systematic Literature Review," Feb. 01, 2022, *John Wiley And Sons Inc*. Doi: 10.1111/Jhn.12946.

[16] I. F. Muslim, F. Salsabila, And P. Priyono, "Urgensi Model Komunikasi Dua Arah Pada Proses Pendidikan," *Intelektium*, Vol. 3, No. 2, Pp. 147–151, Oct. 2022, Doi: 10.37010/Int.V3i2.892.

[17] E. Bingöl And T. Kiliçer, "Customers' Perceptions Of Quality In Dietitian Services: A Comparative Study On Public And Private Health Institutions," *İşletme Bilimi Dergisi*, Vol. 11, No. 1, Pp. 15–32, Apr. 2023, Doi: 10.22139/Jobs.1168522.

[18] S. Bhandari, S. Bennett, And D. H. Peters, "Development And Validation Of A Tool To Assess Core Competencies Of Public Health Professionals In Low-Income Settings: Findings From Uttar Pradesh, India," *Hum. Resour. Health*, Vol. 23, No. 1, Dec. 2025, Doi: 10.1186/S12960-025-00994-5.

[19] M. A. Sultan *Et Al.*, "Competency-Based Education And Training For Community Health Workers: A Scoping Review," *Bmc Health Serv. Res.*, Vol. 25, No. 1, Dec. 2025, Doi: 10.1186/S12913-025-12