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Research Article

Interprofessional Collaboration Practices: Case Study of the Handling of Malnutrition in Three Public Health Centers in South Sulawesi

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Abstract

Background: Complicated health problems require the involvement of all healthcare professions. Nutritional status is one of the most important aspects in preparing healthy generations. The purpose of this research was to examine interprofessional collaborations in the efforts of handling nutritional problems in toddlers. **Method:** This qualitative research study was completed in three public health centers in Jeneponto Regency. A total of 22 informants (19 females and 3 males) participated in this study. The professionals consisted of three doctors, seven nurses, five midwives, four nutritionists, two sanitarians and one health promotion officer. **Results:** The results of this research revealed various definitions of malnutrition by the health officials, including the characteristics and causes of malnutrition. Various actual activities were performed as joint efforts in handling nutrition problems and a good understanding of interprofessional collaborations was indicated by the health officers. Many activities showed a form of interprofessional collaboration in the daily healthcare services. One of these activities was the integrated health center activity. However, at the time of implementation of the activities, there was not yet an interprofessional collaboration as a whole. Supporting documents showed that the implementation of interprofessional collaborations in the form of written rules was also not available. **Conclusion:** It can be concluded that the implementation of interprofessional collaborations in South Sulawesi has not been optimized.

Key words: Interprofessional collaboration, malnutrition, public health centers

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Data Availability: All relevant data are within the paper and its supporting information files.

INTRODUCTION

Collaboration is a mutually beneficial relationship defined by a good agreement between two or more organizations to achieve a common goal¹. This term generally used in research, clinical practice and health professional education and collaborations have occurred in almost every aspect of healthcare². Health problems under highly complex conditions require agreements involving all health professionals³. Cooperation should include preventive and health-promoting efforts without ignoring curative and rehabilitative approaches⁴.

Interprofessional collaborations have positive effects on patient satisfaction by reducing uncertainty and improving the management of pain⁵. Interprofessional collaborative practice is highly important for improving the outcomes of Ministry of Health patients/clients and their families⁶. The World Health Organization (WHO) states that, currently, many health systems around the world implement fragmented healthcare services that are ultimately unable to solve the health problems in a given country⁷. One complex health problem is that of malnutrition⁸. The problems caused by malnutrition are conditions that do not maximize the growth and development of a child. Overcoming nutritional problems requires cross-sectoral action⁸.

Globally, 45% of the deaths of children under the age of 5 years are caused by various forms of malnutrition⁹. This non-optimal growth is suffered by approximately 8 million Indonesian children or one in three Indonesian children¹⁰. From 2007-2011, the percentage of poor people in Indonesia declined from 16.6-12.5% but nutritional problems did not show a significant decline⁶. An overview of the nutritional status of infants, based on the weight-for-age z score (WAZ) indicator and looking at cities/districts with MDGs above the target value (15.5%), showed that there are five districts with a high percentage of combined malnutrition and malnourishment in South Sulawesi¹¹.

Based on the above background, interprofessional collaborations may be an important key in the success of health improvements, including tackling the problem of malnutrition in children, therefore, this study aimed to assess interprofessional collaborations in a case study of the handling of malnutrition in three clinics in Jeneponto Regency and how these collaborations can be improved.

MATERIALS AND METHODS

This research was conducted in Jeneponto Regency. Three public health centers (Puskesmas) serving as

representatives of highland, coastal and suburban areas were selected. Bontomate'ne Public Health Center represented highland areas, Arungkeke Public Health Center represented coastal areas and Togo-togo Public Health Center represented suburban areas shown by Fig. 1. Each public health center provides hospitalization services.

This research uses a qualitative research method. The informers in this research were health officials who worked in the public health centers where the studies were conducted and included nurses, doctors, midwives, nutritionists, sanitarians and health promotion officers. From the three public health centers that were included in the study, 22 health workers from the clinics participated and represented doctors, nurses, midwives, officers, sanitarians, nutritionists and health promotion officers.

Data collection techniques employed in this qualitative research included the use of a participatory and structured observation system in the early stages. Furthermore, research interviews were conducted by both in-depth interviews and focus group discussions (FGDs) with informants. The research questions were based on the operational definitions of the variables described through sub-variables and indicators in the research instrument. The final stage of the study was performed by documenting profiles, duties and roles, nutrition status survey results and rules of interprofessional collaborations. The data were analyzed using content analysis. Content analysis included the following steps: In the early stages, making and determining meaningful content from transcripts, outlining and organizing data, performing data abstraction, including coding, creating categories and arranging content by theme, identifying variables and the relationships between qualitative variables and finally, drawing conclusions.

RESULTS

Characteristics of the research sites: Based on the documentation of the observed results, Bontomate'ne Public Health Center is located in the Turatea sub-district, which consists of seven villages. The total population in the working area was 23,972 people. This public health center supervises four auxiliary public health centers and 2 health post villages. Arungkeke Public Health Center is located approximately 11 km from the city center. The city consists of seven villages, with six villages in the coastal area and one in the highland area. The total population in the working area of the clinics was 17,186 people. This public health center supervises one auxiliary public health center supported by 5 health post villages. The last public health center, Togo-togo, is the only

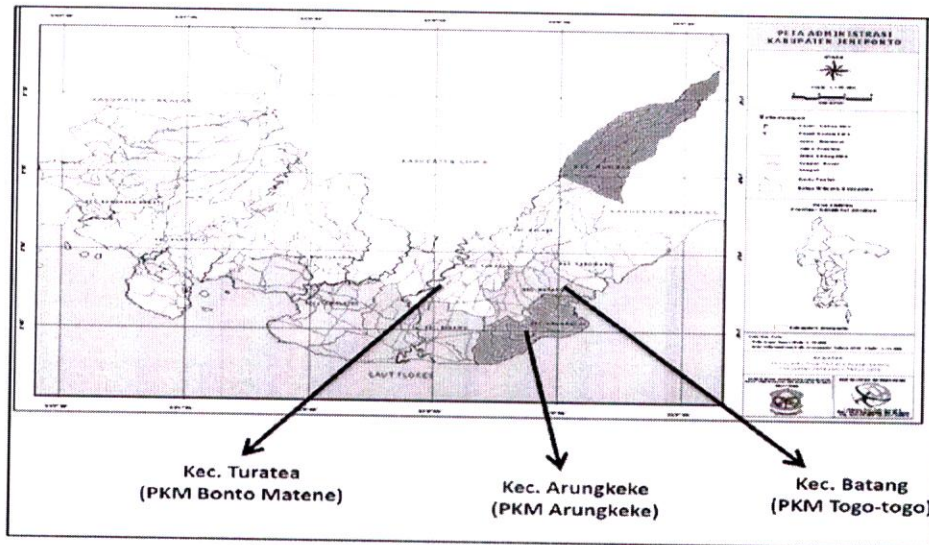


Fig. 1: Research location map¹¹

public health center with hospitalization services in the Batang sub-district. This public health center controls three auxiliary public health centers and two village polyclinics. The health center is located in an urban area approximately 15 km from the regency city center. The number of inhabitants were 18,810 people.

Characteristics of the informants: The number of informants was 22. Three of the informants were men and 19 were women. The informants included 3 doctors, 7 nurses, 5 midwives, 4 nutritionists, 2 environmental health officers and 1 officer of health promotion. In terms of level of education, there were nine people with a third-diploma, two with a fourth-diploma and eleven people with a bachelor's degree. The informant's ages ranged from 20-30 years for 13 people, from 31-40 years old for 6 people and from 40-50 years old for 3 people. The work duration of the informants ranged between 1 and 3 years for 7 people, between 4 and 5 years for 5 people and more than 5 years for ten people. Thirteen informants were married and 9 were not married.

In this study, the produced themes were organized based on the purposes of the research. Based on the results of the data collection and the results of the interviews with the informants, the researchers formulated two themes, namely, the nutritional status of children and interprofessional collaboration.

Results from health officers regarding malnutrition: The results collected from informers regarding the nutritional status of children are described according to several sub-themes: Definitions, characteristics and causes. The results of the interviews showed that various definitions of malnutrition were provided by the informants. However, in general, the informants already understood that malnutrition is defined as a condition in children who have weight for height z score (WHZ) < -3SD and a weight that is not in accord with age and under the recommended value. Most informants understood the characteristics of children who suffer from malnutrition. Informants said that children who suffer from malnutrition are most often found to be visibly thin with low body weights and muscle atrophy.

The prevalence of undernutrition is widespread in West Bengal, India¹². Children who suffer from malnutrition will also experience a decrease in quality of life, especially among children with advanced cancers¹³. Important factors include nutritional needs that are not being met from the food consumed and the education of parents who may be the cause of the genesis of malnutrition in children. Nutritional status is known to be significantly correlated with the academic achievement of children¹⁴.

Interprofessional collaboration: Interprofessional collaborations were also divided into two sub-themes: Understanding of interprofessional collaborations and the

practice of interprofessional collaborations in the daily healthcare service of children with malnutrition. In general, the understanding of collaborations among the informants across professions was good. The sub-theme regarding the practice of interprofessional collaborations in the healthcare service of children with malnutrition, based on information obtained daily, indicated that informants have been performing a variety of activities that are considered forms of interprofessional collaboration, including home visits, system references and integrated service center activities. There are complaints of performing a "double job" due to the limited number of healthcare workers in certain professions and the implementation of healthcare services that are not in accord with the educational background of the informants, which affect interprofessional collaboration efforts.

Integrated service center: Based on the results of the observation of the activities at Posyandu, the researchers gained the impression that the activities and conditions that show interprofessional collaboration were not observed. Only certain professions had the opportunity to carry out activities in the community during integrated service center activities. In addition, the atmosphere and the condition of the supporting facilities of the integrated service center activities have not been optimized, thus, integrated service center activities are still carried out in the houses of local people. It may limit various activities that can be better executed by counseling from health promotion or environmental health officers.

Although integrated service center activities are also carried out in special facilities such as permanent buildings, their implementation is not able to increase the number of enthusiastic people. The people tended to do their daily basis activity such as farming, gardening or fishing rather than take their children to integrated service centers. However, all integrated service center activities involve community health cadres who have been previously trained.

The involvement of all health professions is needed for healthcare activities in the community. In fact, in conducting the integrated services center activities, not all of the professionals can present themselves and work according to the role and duty of their respective professions. This finding was exemplified by one of the informants whose education background was that of a midwife but who was given the role and duties of a health promotion officer or sanitarian. There was also a nurse who was appointed as the coordinator of the midwives. The effective collaborations and high-quality services to the community are important and required. To ensure it, one commonly used indicator is the accreditation of the public health center.

Documentation in the form of regulations written at the district level and at the clinic about interprofessional collaborations was also not observed in reviewing the supporting documents that already existed in the local health system (Jeneponto Regency 2016 and Jeneponto Regency Regulation No. 22/2016) regarding the structure of the organization, tasks and functions and procedures for working in the healthcare system of Jeneponto. None of the documents contained information about important technical aspects or the implementation of interprofessional collaborations. However, the focus group discussions provided information indicating that, at the national level, there is health ministry regulation No. 39/2016 regarding the implementation of guidelines for healthy Indonesian families and health ministry regulation No. 23/2014 regarding nutrition improvement efforts, the two are considered by the participants to be regulations that support interprofessional collaborations.

DISCUSSION

This study shows that, in general, health officials understand the characteristics and causes of malnutrition. Interprofessional collaborations were also understood by all informants who worked in the capacity of a health official. However, such collaboration has not been thoroughly carried out. This finding was made because there are still informants who have not carried out their professions in accord with their educational background. Support for integrated service center activities is also still limited and there is a lack of healthcare workers in certain professions, such as nutrition, health promotion and environmental health. Regulatory support in the form of rules written about interprofessional collaborations at the district level was also not found, thus possibly inhibiting the optimal implementation of interprofessional collaborations.

In this research, a good understanding of interprofessional collaborations was demonstrated by health officers. Collaboration is a term commonly used in research, clinical practice and health professional education². Thus, interprofessional collaborations are not a new concept. In the professional literature, particularly in that pertaining to the health sciences, it is clear that there are many benefits and challenges to encouraging employees to learn and appreciate the cultures of other professionals. This skill can be transferred to many areas in which people work together with other professionals to achieve a common goal¹⁵. This finding is also in agreement with the research results which show that interprofessional healthcare classes have proven to be an effective approach to develop interprofessional healthcare

teams in an effort to increase knowledge and skills to participate and create positive attitudes toward interactions with other professionals¹⁶. It is well known that low socio-economic status, food insecurity and poor childrearing practices are associated with malnutrition among children. In addition to the implementation of programs that focus on the eradication of poverty, community-based nutrition and hygiene education with family planning programs must be continuously implemented to improve the nutritional status of mothers and children¹⁷.

The absence of regulations regarding interprofessional collaborations at the district level observed in this study is hinders in collaboration. Good collaboration requires administrative support in the form of written regulations¹⁸. A successful collaboration is a process involving interpersonal skills that requires willingness and expertise on the part of the participants who are collaborating. Individual attributes are not enough. According to Sharp¹⁹, a crucial factor is the organization itself playing an important role, particularly in providing adequate resources to support the work of the team, human resource management and leadership. As suggested, government policy makers should encourage the scope and utilization of labor with updated policies²⁰. Therefore, the conditions under which health officials perform a "double job" can be minimized.

Various forms of collaboration are implemented by the Ministry of Health in the community. This study revealed that there are many activities in the daily healthcare services that involve interprofessional collaborations. These activities occur in the form of home visits to directly monitor the conditions of children with malnutrition, which is known by the local term "ammuntull". This program is the one of the leading midwife programs and act as the references system between health professionals as well as the integrated health post activities for community. This finding is in line with a study in the Netherlands by Posthumus *et al.*¹, who evaluated the involvement in cooperation between village midwives and obstetricians, because both sectors are starting points that require increased cooperation in the treatment of women. This study reveals the difference between the intensity of cooperation and healthcare professionals¹. However, aspects of system information are already being implemented in an integrated manner²¹.

The various cases of poor nutrition occur in Malaysia, particularly excessive nutrition outpaces malnutrition²². However, in-depth studies of efforts undertaken to increase collaboration are still required to combat malnutrition.

Interprofessional collaborations have been performed by various health care institutions, one form of collaboration is that between pharmacists, doctors and nurses. However, studies that raise the awareness of all team members, the potential roles that pharmacists, doctors and nurses can play and the benefits of working together as a team are still needed²³. Interprofessional collaborations are important in healthcare organizations. To improve interprofessional collaborations, team interventions are recommended and must be supported. Further studies that investigate the culture of organizations and its effect on interprofessional collaborations and the effectiveness of the healthcare team are important²⁴. Trust and commitment from stakeholders require a competent facilitator to build meaning and sustainability in a collaboration that can translate the purpose of public health practices into effective teaching and learning experiences²⁵. The same approach to collaborations has also been observed in other aspects of the ecosystem approach to healthcare with the goal of improving the health of the community^{26,27}.

This research has several limitations, including the small number of public health centers that were assessed, the corresponding inability of the locations to represent the district level and the uneven distribution of professional informants across clinic research locations.

CONCLUSION

The results of this research show that in Jeneponto Regency, the implementation of interprofessional collaborations has not been optimized, although various types of healthcare services in the community can be performed with the involvement of various health professionals.

It is recommended that a model of collaborations across professions be established, which is expected to become a reference for all health professionals in handling the problem of malnutrition in Jeneponto Regency.

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REFERENCES

1. Posthumus, A.G., V.L.N. Scholmerich, A.J.M. Waelput, A.A. Vos and L.C. De Jong-Potjer *et al.*, 2013. Bridging between professionals in perinatal care: Towards shared care in the Netherlands. *Maternal Child Health J.*, 17: 1981-1989.
2. Green, B.N. and C.D. Johnson, 2015. Interprofessional collaboration in research, education and clinical practice: Working together for a better future. *J. Chiropractic Educ.*, 29: 1-10.
3. Kementerian Kesehatan Republik Indonesia, 2015. Rencana strategis kementerian kesehatan tahun 2015-2019. <http://www.depkes.go.id/resources/download/info-publik/Renstra-2015.pdf>
4. Sumarni, M.S., 2015. Peran sarjana kesehatan masyarakat dalam gerakan penyelamatan 1000 hari pertama kehidupan untuk menurunkan stunting dan angka kematian ibu. Proceedings of the Seminar Nasional dan Saresehan Kesehatan Masyarakat, Oktober 16-17, 2015, At Surabaya, Indonesia, pp: 20-30.
5. San Martin-Rodriguez, L., D. D'amour and N. Leduc, 2008. Outcomes of interprofessional collaboration for hospitalized cancer patients. *Cancer Nursing*, 31: E18-E27.
6. Bainbridge, L., L. Nasmith, C. Orchard and V. Wood, 2010. Competencies for interprofessional collaboration. *J. Phys. Ther. Educ.*, 24: 6-11.
7. WHO., 2010. Framework for action on interprofessional education and collaborative practice. World Health Organization, Geneva, Pages: 64.
8. Unicef, 2012. Ringkasan kajian kesehatan ibu dan anak. https://www.unicef.org/indonesia/id/AS_-_B_Ringkasan_Kajian_Kesehatan_REV.pdf
9. Black, R.E., C.G. Victora, S.P. Walker, Z.A. Bhutta and P. Christian *et al.*, 2013. Maternal and child undernutrition and overweight in low-income and middle-income countries. *Lancet*, 382: 427-451.
10. RISKESDAS, 2013. Badan penelitian dan pengembangan badan Kesehatan Kementerian Republik Indonesia, 2013. <http://www.depkes.go.id/resources/download/general/Hasil%20Riskasdas%202013.pdf>
11. DHO Jenepono, 2015. Health profile book of Jenepono district. http://www.depkes.go.id/resources/download/profil/PROFIL_KAB_KOTA_2014/7304_Sulsel_Kab_Jeneponto_2014.pdf
12. Sinha, N.K., K. Maiti, P. Samanta, D.C. Das and P. Banerjee, 2012. Nutritional status of 2-6 year old children of Kankabati grampanchayat, Paschim Medinipur district, West Bengal, India. *Sri Lanka J. Child Health*, 41: 60-64.
13. Shahmoradi, N., M. Kandiah and L.S. Peng, 2009. Impact of nutritional status on the quality of life of advanced cancer patients in hospice home care. *Asian Pac. J. Cancer Prev.*, 10: 1003-1009.
14. Hamid, J.J.M., A.K. Mitra, H. Hasmiza, C.D. Pim, L.O. Ng and W.M.W. Manan, 2011. Effect of gender and nutritional status on academic achievement and cognitive function among primary school children in a rural district in Malaysia. *Malaysian J. Nutr.*, 17: 189-200.
15. Borst, J., 2011. Interprofessional collaboration: An introduction. *Hum. Innovacios Szemle*, 1: 32-39.
16. MacDowell, M., M. Glasser, V. Weidenbacher-Hoper and K. Peters, 2014. Impact of a rural interprofessional health professions summer preceptorship educational experience on participant's attitudes and knowledge. *Educ. Health*, 27: 177-182.
17. Wong, H.J., F.M. Moy and S. Nair, 2014. Risk factors of malnutrition among preschool children in Terengganu, Malaysia: A case control study. *BMC Public Health*, Vol. 14, No. 1. 10.1186/1471-2458-14-785.
18. Oandasan, I., G.R. Baker, K. Barker, C. Bosco and D. D'Amour *et al.*, 2006. Teamwork in healthcare: Promoting effective teamwork in healthcare in Canada: Policy synthesis and recommendations. Canadian Health Services Research Foundation, Ottawa, Ontario.
19. Sharp, M., 2006. Enhancing interdisciplinary collaboration in primary health care. *Can. J. Dietetic Pract. Res.*, 67: S4-S8.
20. Thakur, P.K., S. Kumar, M.K. Kandukuri, B.K. Mathew and S. Rahul, 2016. Does the pharm. D course have career in clinical, pharmaceutical, research and academics?: Review on scope and opportunities. *Eur. J. Pharm. Med. Res.*, 3: 141-152.
21. Kusmiyati, Y., Y.E. Purnamaningrum, I.K. Nugrahaeni, Waryana and S. Ronoadmodjo, 2017. The effect of malnutrition on the quality of life of children aged 2-4 in Indonesia. *Int. J. Scient. Res. Educ.*, 5: 6425-6430.
22. Poh, B.K., B.K. Ng, M.D.S. Haslinda, S.N. Shanita and J.E. Wong *et al.*, 2013. Nutritional status and dietary intakes of children aged 6 months to 12 years: Findings of the nutrition survey of Malaysian children (SEANUTS Malaysia). *Br. J. Nutr.*, 110: S21-S35.
23. Makowsky, M.J., T.J. Schindel, M. Rosenthal, K. Campbell, R.T. Tsuyuki and H.M. Madill, 2009. Collaboration between pharmacists, physicians and nurse practitioners: A qualitative investigation of working relationships in the inpatient medical setting. *J. Interprofessional Care*, 23: 169-184.

24. Korner, M., M.A. Wirtz, J. Bengel and A.S. Goritz, 2015. Relationship of organizational culture, teamwork and job satisfaction in interprofessional teams. *BMC Health Services Res.*, Vol. 15, No. 1. 10.1186/s12913-015-0888-y.
25. Lamus-Lemus, F., C. Correal-Munoz, E. Hernandez-Rincon, N. Serrano-Espinosa, C. Jaimes-deTrivino, D. Diaz-Quijano and J.G. Garcia-Manrique, 2017. The pursuit of healthier communities through a community health medical education program. *Educ. Health*, 30: 116-125.
26. Webb, J.C., D. Mergler, M.W. Parkes, J. Saint-Charles and J. Spiegel *et al.*, 2010. Tools for thoughtful action: The role of ecosystem approaches to health in enhancing public health. *Can. J. Public Health/Rev. Can. Sante'e Publique*, 101: 439-441.
27. Muqni, A.D., A.I. Arundhana, A.R. Thaha, V. Hadju and N. Jafar, 2017. Maternal preconception body mass index and gestational weight gain: A prospective cohort study potentially to prevent low birth weight. *Indian J. Public Health Res. Dev.*, 8: 110-114.

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