



THE INTEGRATION OF HEALTH STUDENT FIELD PRACTICE IN ANTHROPOMETRY MEASUREMENT OF STUNTING CASES IN PAPUA: A CASE STUDY

By

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ABSTRACT

Five regions in Papua province, namely Jayawijaya, Tolikara, Lanny Jaya, Nduga, and Dogiyai, have a high prevalence of stunting above the national figure. As part of the national strategy, empowering health students to reduce the prevalence of stunting through anthropometric measurements is very important. The purpose of this study was to identify the practical steps of students in anthropometric activities as part of handling stunting cases in Papua. This research used a case study method with a descriptive design. The sample was stunting cases in various regions in Papua province. The method used in case identification was the Blueprint Test of case management assessment with a standard nursing process of Orlando. The data was obtained from scientific journals at Google Scholar that has a DOI (Digital Object Identifier) or published in reputable journals (national or international) which were analyzed using the PICOT model. The results of the PICOT analysis showed three main problems that need to be prioritized in the involvement of practical students related to anthropometric measurements. Those problems include debriefing through training, cross-sectoral collaboration driven by the campus, and program realization. This study recommended an anthropometric measurement program for stunting cases in the form of curriculum evaluation in local content, cross-sectoral collaboration, and program implementation by considering local wisdom.

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1. INTRODUCTION

Anthropometric measurements by health students so far have not received much attention as an effective initial response measure in remote areas in Papua. Whereas Papua is the province with the highest stunting cases in Indonesia, with an average prevalence rate of above 30%. In Lanny Jaya, for example, it reached more than 50% in 2018, and even though in 2021 there will be improvements. Those problem needs to get intervention from related officers, for example, health workers (nutrition, midwifery, nursing, environmental health) who collaborate with family planning agencies. The stunting program for health workers was disruptive during the Covid-19 pandemic due to limited access and social distancing rules, especially for field officers such as public health, considering that 70% of their activities are communicating, information, and education which are automatically blocked. Those activities, which are commonly in Indonesia referred to as KIE, need special attention and handling, for example empowering health students as part of youth. In such conditions, the empowerment of adolescents who are health students is very important as one of the solutions recommended by many studies that have proven effective.

Health students in their academic curriculum are required to do field practice in the community following the competencies expected in the community health practice. The public health practice has a wide scope, both related to service activities at Community Health Centers (Puskesmas), family health services, and environmental health to individual health. In the practice of Puskesmas and family health, one of the most important aspects is Family Planning (KB). Integrated with related institutions, health student management campuses collaborate in achieving educational goals as well as national health goals. With this program, several mutually supportive activities will be obtained to achieve national health goals. Therefore, the integration of field practice activities in the community by students is very helpful and supports the health program of the relevant agencies providing mutual benefits or referred to as symbiotic mutualism. Many previous studies also discussed anthropometric measurements in stunting cases. Several studies related to stunting in Papua were also mentioned by the researchers.

Compared to other provinces in Indonesia, Papua is one of the poorest provinces with minimal human resources. Even though it has vast natural resources and potential, Papua is geographically difficult, where many areas are difficult to reach utilizing transportation. Therefore, stunting prevention in many remote areas in Papua is not easy to tackle. This is the background that distinguishes the previous research as mentioned above from our research. In addition, the involvement of health students in anthropometric measurements in our study is a novelty in research related to stunting. Those are some of the gaps outlined in this research. Based on this background, we conducted this research.

The research method was a case study with a descriptive design. The aim was to identify the practice steps of health students in anthropometric measurement activities as part of handling stunting cases in Papua. Those findings were expected to contribute to the preparation of the proposal for the anthropometric measurement of stunting cases in the form of curriculum evaluation in local content, the creation of cross-sectorial collaboration as part of the development of health education management, and program implementation by considering local wisdom. Another implication of this research is that it is also expected to provide input regarding the classification of stunting cases based on the results of anthropometric measurements and can provide a more focused direction of health practice for health education providers in line with the goals of the national health system.

2. RESEARCH METHODS

This research used a case study approach to stunting in Papua through the nursing process. The research sample was all stunting cases in Papua that we obtained from Google Engine, of reputable journals and reports from the Ministry of Health (Kemenkes RI) and the National Family Planning Agency (BKKBN). The data obtained were analyzed using the PICOT model (Population, Intervention, Comparison, Output, Time). The research was conducted in May 2022. The research instrument included researchers and the results of data analysis examinations as well as guidelines for handling case studies that used the nursing process according to nursing theory according to Orlando, namely the Deliberative Nursing Process theory, that consist of assessment, planning, implementation and evaluation. Primary data were not obtained because the researchers did not meet stunting sufferers directly. The secondary data were obtained from reputable reports and journals. Data processing was carried out according to the steps in the nursing process, namely assessment, planning implementation, and evaluation. The assessment was carried out using the PICOT model where the data were obtained from selected journals. Planning was adjusted to the practice plan of nursing students by applying the principles of what goals to achieve, why it was done, who is involved, where, when, and how to do anthropometry. Implementation was carried out according to priorities (location, funds, and other resources). After that, an evaluation was carried out. The whole process of processing this case study was based on a literature study and combined with conditions, taking into account the strengths and weaknesses of the Papuan people. Similar method and model were found academically effective.

3. RESULT AND DISCUSSION

Assessment

The initial step in this assessment is done by collecting data. Valid data were obtained from reports from official institutions (Kemenkes or BKKBN) and other secondary data obtained from reputable journals. Reputable journals are limited for the last five years with keywords: Papua, health students, stunting, and anthropometry. The instrument used to filter was the PICOT model. Initial data collection before being filtered, using Google Scholar so that the science was maintained where 225 documents (0.05 seconds) were obtained. Then it was filtered again according to the article title and obtained 62 documents and 263 documents were discarded because they were irrelevant, duplicated, and out of focus. Of the 62 documents that were filtered, 13 journals were worthy of review and included in the PICOT model.



Tabel 1: PICOT Model

Population	Intervention	Comparison	Outcome	Time
The thirteen reviewed documents' populations are public, stunting cases, healthcare workers, and health students.	All documents discussed student field practice on public health particularly stunting and anthropometry.	The documents did not discuss healthcare workers' direct involvement in stunting and anthropometry.	All documents discussed stunting, health students, public health, and anthropometry that require an integrated approach.	All documents were prepared between 2017 to 2022.

The above table shows a summary of documents that are worthy of review using the PICOT model where the requirements include keywords, then the selected document must have the population, intervention, comparison, outcome, and time. The complete document is summarized in Table 2 below:

Table 2: The list of Reviewed Documents

No.	Title, Authors, Year of Publication	Countries and Research Methods	Results
1	AkperHerminaManggala Students' KnowledgeAbout Stunting Prevention In Toddlers, Winarti, and Hartati, 2022	Indonesia Quantitative	The results showed that moststudents have good knowledge about stunting (76.93%), but most students have less knowledge about the riskfactors for stunting (67.3%) and stunting impacts (48.5%). Most students get information about stunting from online media[18].
2	How Family Planning Services Responses To The Covid-19 Pandemic In Indonesia: A Case Study In 8 District/City, Soewondo, et al., 2020	Indonesia Case Study	Technical guidance support, incentives, and self-protection need to be provided to these partners to support the Puskesmas more optimally[19].
3	Health Education For Career Granma In Preventing Stunting Children Aged 36 MonthsIn The Coastal Area, Sary, GNA, 2020	Indonesia Quantitative	The health education on the stunting prevention given to the caregiver is effective to increase the weight and height of children aged 36 months in the coastal area of Probolinggo Regency, East Java[20].
4	Prevention of Stunting through Cadre Empowerment in the Mangkupalas Health Center Work Area in 2021, Siregar et al., 2021	Indonesia Quantitative	The empowerment of health cadres in preventing stunting and increasing the ability of health cadres to detect stunting with appropriate anthropometric measurements is advisable[21].
5	Inter-Professional Real Work Practices Collaboration Can ImproveCommunity Health Degree, Warijan et al., 2018	Indonesia Quantitative	EmpowermentPotential-Based Family Health and NutritionLocal” which is a form of embodiment of the visionand the mission of the Semarang Ministry of Health Poltekkes insupport the Tri Dharma CollegeHigh-especially in the field of DevotionPublic. The program is able improve public health status inBancak and Bringin sub-districts, KabupatenSemarang through promotive and preventive efforts[22].
6	Description Analysis Of Student Field Practice	Indonesia Qualitative	If left unchecked, Toddlers will be at riskto have various nutritional problems andhealth

	And Nutrition Status Of The Community Efforts To Improve Health Status Through A Collaborative Approach Of Multiple Stakeholders Interest, Nauli H.A., 2021		during infancy or at the period next age. More than one-third (33%) of children under five have a status below the normal line. If neglected and chronic, stunting will be a new nutritional problem [23].
7	Stunting Problems and Prevention, Rahmadhita, K., 2021.	Indonesia Document Review	Stunting if not balanced with catch-up growth results in decreased growth, besides increased risk of morbidity, death, and obstacles to motoric and mental growth [24].
8	The Targets for Stunting Prevention Policies in Papua, Indonesia: What Mothers' Characteristics Matter? Wulandari et al., 2022.	Indonesia Quantitative	The results show that mothers who graduated from primary school and under were 1.263 times more likely than mothers with a college education to have stunted children [25].
9	Use and Misuse of Stunting as a Measure of Child Health, Perumale et al., 2018	Canada Qualitative	There is no biological basis for the -2 SD cutoff to define stunting, making it a poor individual-level classifier of malnutrition or disease. In fact, in many low- and middle-income countries, children above and below the threshold are similarly affected by growth-limiting exposures [26].
10	Prevalence of and Associated Factors of Stunting among Adolescents in Tehuledere District, North-East Ethiopia, 2017, Woday et al., 2018.	Ethiopia Quantitative	Improving the nutritional status of adolescents is imperative by providing comprehensive and routine nutritional assessment and counseling services for adolescents at the community, school, and health facility levels [27].
11	Children who are both wasted and stunted are also underweight and have a high risk of death: descriptive epidemiology of multiple anthropometric deficits using data from 51 countries, Myatt et al., 2018.	Worldwide Document Review	WaSt and "multiple anthropometric deficits" (i.e. being simultaneously wasted, stunted, and underweight) are identical conditions. The conditions of being wasted and being stunted are positively associated with each other. WaSt cases have more severe wasting than wasted only cases. WaSt cases have more severe stunting than stunted only cases [28].
12	Low birth weight was the most dominant predictor associated with stunting among children aged 12–23 months in Indonesia, Aryastami et al., 2017	Indonesia Document Review	Low Birth Weight, gender (boys), history of neonatal illness, and poverty are factors related to stunting among children aged 12–23 months in Indonesia, with LBW being the major determinant of stunting [29].
13	Improving Human Resources as Local Food Processors to Accelerate Stunting Prevention to realize the SDGs: Case	Indonesia Qualitative	People are unmotivated to take part in Posyandu activities and health education. People come to health services only when the child is in bad condition. Stunting can be reduced by giving education and



Study in Asmat, Papua,
Sianipar, et al., 2021

directcounseling to monitor people's lives,
and provide financial assistance and healthy
food on regular basis[30].

Table 2 above shows the results of the assessment in which four activities need to be involved in the field practice of health students related to anthropometric measurements as an integrated part in dealing with stunting cases in Papua as recommended by previous researchers. The research was conducted in Indonesia, Ethiopia, Canada, and a mixture of various countries. The four activities are debriefing training (documents number 1, 2, 3, 4, 5, 8, 9, 10, 13 or 9 out of 13 records), activities to identify cases i.e. assessment (all documents), help diagnose cases (all documents) and write a case report (all documents). Two document mention Papua and mention the word 'anthropometry' also 2, but implicitly mentions the term 'physical measurement' which refers to 100% anthropometry.

Planning

The results of the above analysis reveal the importance of empowerment for the younger generation, namely health students (documents number 1, 4, 5, 10, 13) who need to be prepared and need careful planning. Plans arranged in the field practice process are very important to provide a more focused direction for achieving goals. In this planning stage, the steps that need to be prepared are the name of the program, the background of why the program is implemented, who is involved, where it is held, when it starts, and how it is implemented. All these steps need to be explained to students with a clear agenda.

Implementation

The summary of document analysis in table 2 mentions the importance of direct involvement of all relevant parties including health students who can also be referred to as cadres or supporting parties (document numbers 1, 2, 4, 5, 10). The principle of implementation in handling stunting is to focus on problems, including anthropometric measurements. Therefore, the provision of knowledge, skills, and attitudes during this implementation stage needs to be emphasized with clear procedures supported by documents as guidelines for carrying out activities (Standard Operating Procedure).

Evaluation

Although the thirteen documents in Table 2 explicitly do not mention evaluation as one of the important stages of each activity, implicitly the evaluation step is a mandatory stage that health professionals need to carry out in each of their activities. This evaluation step includes a review of activity results, identification of program strengths and weaknesses as well as future activity plans. Moreover, this concerns anthropometric measurements as mentioned in documents numbers 4 and 11 as well as other documents that mention the terms of measuring children's weight and height.

Analysis Conclusion

The conclusion from the analysis above is that as part of Indonesia (10 documents), Papua (1 document) faces a serious stunting problem that requires integrated cross-sectorial collaboration including the involvement of health students. Health students who are required to undergo field practice during their college years need to be directed towards understanding their knowledge and skills related to stunting. Stunting is one of the priorities of the national health program which is targeted to reduce its prevalence to 14% by 2024. More specifically in this study is anthropometric measurements. Three main problems need to be prioritized in the involvement of practical students related to anthropometric measurements that need solutions. These problems include debriefing through training, cross-sectorial collaboration driven by the campus, and program realization.

DISCUSSION

Integration of student health field practices with stunting prevalence reduction programs requires a structured approach. Not only in an academic sense, but also in cross-sectorial ranks. A structured approach to the academic field includes the importance of identifying curriculum content, especially local content. Evaluation of local content is needed because not all regions have the same stunting cases and different socio-cultural backgrounds[33]. In addition, the evaluation of local content in the curriculum also requires careful calculations regarding semester credits, considering that other materials must also be included in the local content. After considering the inclusion of stunting-related programs, one of which is in the form of anthropometric measurements, then we recommend the preparation of a program implementation proposal in local content containing the following integration steps:

Student briefing

The results of this research analysis as contained in Table 2 documents numbers 1, 2, 3, 4, 5, 10, and 11 stated that it is necessary to involve students in handling stunting as an effective approach. An effective approach through education must be in line with instructional objectives, namely under institutional goals, to national on a larger scale. Therefore, it is necessary to equip students before they do field practice. Many studies examine those

strategies as part of the steps before students practice public health. Considering that field practice is limited in targets, time, place, funds, and other resources, the preparation of the debriefing must focus on

Cross-sectorial collaboration

The results of this study (documents number 1, 2, 10, 13) state that cross-sectorial involvement plays an important role. Many studies discuss the role of cross-sectors in achieving the goal of reducing stunting prevalence. In Indonesia, this stunting reduction step is specifically integrated into the Family Planning (KB) program. Family planning officers in the field always involve community leaders, local officials, youth and schools as well as students. The steps taken by the family planning agency under the auspices of the BKKBN can be used as the basis for why cross-sectorial cooperation is needed. This basic foundation is also a potential that supports the smooth running of the program as a side of strengths.

Program Implementation

Anthropometric measurements are not only theory but also need practice. In reality, students need clear SOPs, so that even without supervision they will be able to do it after training in the campus laboratory. The obstacles to the realization of this program in various literature mentioned include the existence of human resources, funds, efficiency and effectiveness of the program as well as its continuity. Not infrequently the program is only held once and the last time because there is no follow-up and continuity plan. The task of the campus is to maintain the continuity of this anthropometric practice program as part of consistent student field practice.

4. CONCLUSION

The purpose of this research using the case study method is to identify the practical steps of health students in anthropometric measurement activities as part of handling stunting cases in Papua. The results of the PICOT analysis show three main problems that need to be prioritized in the involvement of practical students related to anthropometric measurements. These problems include debriefing through training, cross-sectorial collaboration driven by the campus, and program realization. These findings are expected to contribute to the preparation of an anthropometric measurement program proposal in stunting cases in the form of curriculum evaluation in local content, the creation of cross-sectorial collaboration as part of the development of health education management, and program implementation by considering local wisdom. The limitation of this research is that there is no direct case study research in the field in areas where prevalence is high in Papua due to limited time, and funds, the Covid-19 era has not fully recovered and government policies related to the pandemic. Going forward, we recommend future research related to the development of educational management in more specific field practices related to anthropometric measurements of certain health student education majors such as nutrition, midwifery, or nursing.

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