



Development and Effectiveness of the Stunting Prevention Counseling Training Module on the Knowledge and Attitudes of Health Cadres in the Kinovaro Health Center Work Area

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Article History	Abstract
Received: 06 June 2023 Revised: 05 Sept 2023 Accepted: 13 Nov 2023	<p>Background: Stunting is a nutritional growth and development disorder in toddlers which is still a national and global problem. Indonesia ranks 5th in the incidence of stunting in the world. Results of Regional Health Research The prevalence of stunting among children under five in Indonesia has decreased from 37.2% in 2013 to 33.6% in 2016 to 30.8% in 2018. (2,3) Meanwhile, based on SSGBI results in 2019, stunting has decreased to 27.67%. Purpose: This research aims to develop a stunting prevention counseling training module for health cadres. This research is a type of development research (Research and Development) referring to the ADDIE development model including (1) Analysis (Analysis), (2) Design (Design), (3) Development (Development), (4) Implementation (Implementation), (5) Evaluation. The subjects of this research included 3 material experts, 2 media experts, and 30 health cadres in the Kinivaro Health Center work area. Methods: The object of this research is the Stunting Prevention Module Anthology Counseling for Health Cadres. The instruments used to assess the feasibility of the module include a feasibility assessment sheet by a material expert, a feasibility assessment sheet by a media expert, and a health response questionnaire regarding the use of the module. Results: The results of the research show that the Stunting Prevention Module Anthology Counseling for Health Cadres which was developed is suitable for use as a medium in providing stunting prevention counseling for Health cadres to pregnant and breastfeeding mothers based on the overall average aspect score obtained by material experts of 9.35 in the category feasible, the overall average aspect score by media experts was 6.50 in the very feasible category, and the overall average aspect score by health responses to the module was 97.42 in the very feasible category. Results: This research module development stage so it is recommended that this research can be continued on different subjects/samples in order to obtain information related to the effectiveness of the module developed in increasing the knowledge and attitudes of Health cadres in preventing stunting.</p>
CC License CC-BY-NC-SA 4.0	Keywords: Module development; counseling; stunting prevention; health cadres

1. Introduction

Stunting is a nutritional growth and development disorder in toddlers which is still a national and global problem. Indonesia ranks 5th in the incidence of stunting in the world. Results of Regional Health Research The prevalence of stunting among children under five in Indonesia has decreased from 37.2% in 2013 to 33.6% in 2016 to 30.8% in 2018. (2,3) Meanwhile, based on SSGBI results in 2019, stunting has decreased to 27.67%. Even though the percentage has decreased, short and thin toddlers are still a health problem in Indonesia that needs serious treatment. In Central Sulawesi, the prevalence of stunting is 31.26%, ranking the 10th highest incidence of stunting from 34 provinces in Indonesia. Meanwhile, the prevalence of stunting in toddlers aged 12-59 months in the Kinovaro Health Center working area in 2019 was 133 toddlers, in 2020 it was 206 toddlers and In 2021 there will be 167 children under five. Meanwhile, in 2022 there will be another increase, namely as many as 209 toddlers experiencing stunting¹.

There are several factors that cause stunting, namely non-exclusive breastfeeding, poor environmental hygiene, babies with a history of LBW, family income, inadequate nutritional intake, maternal education, family support, maternal employment, gestational age, lack of hygiene in caring for babies and maternal height. So efforts are needed to deal with stunting in order to reduce the impacts that will occur².

The impacts of stunting are immediate and long-term, including increased morbidity and mortality, poor child development and learning capacity, increased risk of infection and non-communicable diseases in adulthood, and reduced productivity and economic capacity. For this reason Efforts to prevent stunting are needed³.

Stunting prevention is an issue that must be the responsibility of all of us. As community representatives, Posyandu cadres play an important role in implementing stunting prevention. However, there is still a lack of knowledge and skills of cadres due to a lack of training for posyandu cadres in carrying out their duties as posyandu cadres. One effort to increase the knowledge and skills of cadres in efforts to overcome stunting is through counseling training. Interviews conducted with Kinovaro Health Center Nutrition officers on April 28 2021 revealed data on 130 health cadres spread across 20 posyandu. Training related to stunting counseling has never been carried out, the intervention provided is only in the form of education to cadres without any evaluation of their understanding. Based on the above background, the problem is that there is no stunting counseling training module available for health cadres and the effectiveness of the stunting counselling training module in increasing the knowledge and attitudes of cadres is not yet known⁴.

2. Materials And Methods

Research design

Phase I research was carried out using a development research approach. According to Sugiyono, (2015) the Research & Development method is a research method used to produce a product, as well as test the effectiveness of the product that has been produced. This phase I research will focus on developing a stunting prevention counseling training module for health cadres. This research is a type of development research (Research and Development) referring to the ADDIE development model including (1) Analysis (Analysis), (2) Design (Design), (3) Development (Development), (4) Implementation (Implementation), (5) Evaluation⁵.

Analysis (Analysis Stage) and Design (Design Stage)

At this stage, a needs analysis was carried out in the Kinovaro Community Health Center Working Area, Sigi Regency. The needs analysis includes the process of stunting prevention counseling activities and the media or guidelines used in providing counseling by health cadres to pregnant women and mothers of toddlers. From the analysis carried out, it will later be used as a basis for developing the module. At the design stage, the author will design the product based on what was obtained from the analysis stage. This stage will carry out: Preparation of a module framework which includes the presentation of material in the required modules, Preparation of reference materials related to the material, Creation of instruments for module assessment, including module assessment instruments in terms of material, media and responses from users⁶.

Research subject

Phase I research subjects consisted of two types, namely expert respondents and user respondents. Expert respondents were divided into two, namely material expert respondents and media experts. The material expert respondents in this research are stunting experts who are nutrition lecturers and lecturers who collaborate with the government in stunting prevention who come from the Palu Ministry of Health Polytechnic. The media expert respondents in this research were staff working at Magama Publisher Palu, Central Sulawesi who were experts in the media field. The user respondents in this study were 30 health cadres in the Kinovaro Community Health Center Working Area, Sigi Regency, Central Sulawesi.

Development (Development Stage) and Implementation (Implementation Stage)

In the development stage, the author will develop the product refers to things obtained from the design or planning stage. This stage will carry out: Module development according to the results at the design stage, Product validation to determine the quality of the module before being tested on users, Module improvements based on expert input. The implementation stage is the step where it will be implemented results of the development stage. Products in the form of modules that have been developed and declared

appropriate by material and media experts will be applied by cadres in providing counseling to pregnant women and mothers of toddlers. At this stage, the instrument will be filled in by health cadres who have used the module. This aims to get user responses to the modules used.

Research Instrument

This research will use an instrument in the form of a questionnaire to obtain the data needed to determine the quality of the module being developed. The type of questionnaire used in this research is a Likert scale questionnaire, where 4 options are provided instead of 5 options. The advantage of a Likert scale with 4 options is that it does not provide a middle or neutral option. Thus, respondents who fill in must make their choice firmly and without hesitation.

3. Results and Discussion

Stages of Development of the Stunting Counseling Training Module in

The analysis stage is carried out to find out what needs are needed for the research and product development process. The method used at this stage of analysis was to carry out observation activities during posyandu activities and the interview process with Kinovaro Community Health Center officers who handle the stunting program. Observations and interviews were carried out to analyze module requirements. The results of observations carried out together with community health center officers when cadres carried out posyandu cadres seemed to have more tasks, namely carrying out registration, measuring body weight, body length and height, while providing education and counseling was carried out by midwives or nurses. Based on the results of the interview, they said they did not understand stunting, let alone stunting counseling.

An interview conducted with Mrs. Hindun, S.Kep., Ns as the head of administration who collaborates with the nutrition department in handling stunting, said that posyandu cadres had never conducted stunting prevention counseling for pregnant women and mothers of toddlers. This is due to the lack of understanding of health cadres about stunting and the difficulty of communicating with pregnant women and mothers of toddlers. When health cadres want to visit the homes of pregnant women and mothers of toddlers, they often close the door and refuse to meet them. Head of the Kinovaro Community Health Center, Mr. Arifuddin, S.Kep. also said that there was a need for media that could be used by health cadres as their guide in conducting stunting prevention counseling for pregnant women and mothers of toddlers. They expect that in research activities that will take place accompanied by a handbook as a guide for cadres in carrying out cadre duties in efforts to prevent stunting through counseling for pregnant women and mothers of toddlers.

The results of the analysis showed that health cadres had never conducted counseling and there were no modules used by cadres as a guide in providing counseling to pregnant women and mothers of toddlers regarding stunting prevention. A potential problem in this research and development is developing a stunting prevention counseling training module for health cadres. This research was conducted in the Kinovari Community Health Center Work Area where, based on literature studies, data was obtained that the incidence of stunting continues to increase every year so that an intervention is needed to reduce or even prevent the incidence of stunting cases. Based on the results of the analysis above, a module is needed to guide cadres in conducting stunting prevention counseling. Therefore, a Stunting Prevention Module Anthology Counseling for Health Cadres was developed so that cadres can communicate effectively with pregnant women and mothers of toddlers in the hope that this counseling can be effective and the incidence of stunting can be reduced or even prevented.

Preparing the Content of Learning Material in the Module

The material that will be presented in this module is the main material regarding health cadres, the concept of stunting, the concept of interpersonal communication and counseling of cadres with mothers of toddlers in preventing stunting. Each material contains an explanation of the material, assignments and evaluation which are presented in the form of a quiz. The module is structured in such a way that when the health has completed the material, the health is required to answer the questions given in the form of a quiz. The quiz is presented in the form of a statement using the Guttman scale with "True and False" answer options and then there will be feedback if you have completed the question. This feedback is represented in the form of grades so that health cadres can easily find out their learning results. If it is good, the health can continue with the next learning activity. The research instrument was used to determine the feasibility of the module. The instrument is prepared in the form of a 4 Likert scale questionnaire where the answers are Very Good/Very attractive equivalent to a score of 4, Good/Attractive equivalent to a score of 3, Not good/Not attractive equivalent to a score of 2, and Very Bad/Very Unattractive equivalent to a score 1. When preparing the items in the module feasibility

assessment instrument, pay attention to aspects of module feasibility including aspects of content appropriateness, presentation appropriateness, language appropriateness, contextual appropriateness, module size, cover design and module content design. The assessment descriptions that have been collected are reviewed and selected to be used as needed in assessing the Stunting Prevention Module.

Material Expert Module Feasibility Test

At this stage, the draft module I that has been designed is then subjected to product validation/feasibility testing. The product feasibility test was carried out by material experts consisting of 3 experts and media experts consisting of 2 experts using the Focus Group Discussion (FGD) method. Material experts look at the appropriateness of content, presentation, language and contextual aspects. The results of the expert FGD are as follows.

Table 3.1 Feasibility Test for Material Expert Module

	Aspect	Total Score	Percentage	Note
1	Content Feasibility Aspect	8,75	72,92%	Worthy
2	Feasibility of Presentation	10,25	85,42%	Very Worth it
3	Language Eligibility	8,40	70,00%	Worthy
4	Contextual Feasibility	10,00	83,33%	Very Worth it
	Average	9,35	77,92%	Worthy

Based on Table 3.1 Module Feasibility Test by material experts, it can be seen that the entire product developed, namely the Stunting Prevention Module, Potpourri Counseling for Health Cadres, is included in the "feasible" category, which in this case means that the product developed is suitable. If we look at each aspect, the presentation and contextual suitability aspect shows that it is in the "very feasible" category, while the content and language suitability aspect is still in the "decent" category.

Based on the results of the module validation carried out by material experts, it can be concluded that the material in the module is in the appropriate category with revision. Therefore, it can be concluded that the quality of the e-module is good and is declared suitable for use to continue at the next stage, namely implementation. Apart from the material aspect, Draft I of the Stunting Prevention Module Anthology Counseling for Health Cadres was also tested for its feasibility in terms of module design by media experts. Media experts look at the aspects of module size, cover design and module content design. The results of the expert FGD are as follows.

Table 3.2 Feasibility Test for Media Expert Module

No	Aspect	Total Score	Percentage	Note
1	Modul SIze	7,00	87,50%	Very Worth it
2	Cover Design	6,50	81,25%	Very Worth it
3	Module Content Design	6,00	75,00%	Worthy
	Average	6,50	81,25%	Very Wort it

Based on Table 3.2 the results of the revision of phase I of the Stunting Prevention Module Anthology Counseling for Health Cadres in accordance with the results of the expert FGD, the next stage, namely Draft II, was implemented by conducting trials on health cadres who were potential users of the module being developed. This small group trial was used as a pilot study for researchers. This small group trial was carried out on 30 health cadres to test the readability of the product being developed which included aspects of language, usability, graphics and material. The readability test results in small group trials are as follows:

Table 3.3 Small Group Trials

No	Aspect	Total Score	Percentage	Note
1	Aspect Language	98,67	82,22%	Very Worth it
2	Aspect Benefit	101,00	84,17%	Very Worth it
3	Aspect Ghraphic	98,00	81,67%	Very Worth it
4	Aspect Material	92,00	76,67%	Worthy
	Average	97,42	81,18%	Very Worth it

Based on Table 3.3 Small group tests by health cadres, the products developed are in the "very feasible" category. However, if we look at each aspect, it can be seen that the material aspect is still in the "decent" category. Based on the results of small group trials, revisions were made to the material aspects. What has been revised is that weight weighing does not use a dacin tool. This material was removed from the module. Based on the phase II revision, Draft III was obtained.

Evaluation is carried out to analyze data obtained from research results, namely needs analysis, preparation/design, product validity/feasibility from material experts, media and health cadres as potential users. The final results of the evaluation stage show that the product developed in the form of a Stunting Prevention Module, Counseling for Health Cadres, has gone through stages of improvement, so the module developed is valid and suitable for use. The final product of the Stunting Prevention Module Anthology Counseling for Health Cadres is in Draft III.

The results of development research carried out by researchers produced a product in the form of a Stunting Prevention Module, Counseling Potions for Health Cadres. The module was developed through 5 stages in the ADDIE model, namely Analysis, Design, Develop, Implementation and Evaluation. Analysis is carried out as a preliminary study related to existing potential problems⁷. Based on preliminary studies, it was found that health cadres said they did not understand stunting, let alone stunting counseling. Apart from that, posyandu cadres have never conducted stunting prevention counseling for pregnant women and mothers of toddlers⁸. Therefore, a module is needed to guide cadres in conducting stunting prevention counseling. The design of the module development design is carried out in preparing the material that will be included in the module so that it meets the needs of health cadres in conducting stunting prevention counseling. Apart from that, the design/layout that will be used in the module is also designed, so that the module developed is attractive to users⁹.

The development stage includes product validation carried out by 3 material experts and 2 media experts. The results of the conclusions from material and media experts concluded that the product developed was suitable for use. Revisions were made based on suggestions for improvement provided by experts, namely relating to adjusting the material prepared to the objectives of the planned module, adding material about early detection of stunting, presentation layout, using language that is easy to understand, cover layout and title on the cover¹⁰. The implementation stage is the stage where the module is used by potential users, namely Health cadres. At this stage, a product readability test is carried out on a small sample group¹¹. Trials were carried out on 30 samples from Health cadres to test product readability consisting of aspects of language, benefits, graphics and materials. The readability test results show that the language, benefits and graphic aspects are valid (very appropriate) while the material aspect is considered adequate. The improvements made from the results of this product's readability test include weight weighing material without using a dacin tool. This material was removed from the module¹².

The final stage is the evaluation stage. Evaluation is carried out to analyze data obtained from research results, namely needs analysis, preparation/design, product validity/feasibility from material experts, media and health cadres as potential users. The final results of the evaluation stage are shown to be the final product of the Stunting Prevention Module, Counseling for Health Cadres¹³. Modules are systematic teaching materials consisting of material, practice questions which are prepared using language that is easy to understand in the form of printed media. Module is a form of teaching material that is packaged completely and systematically, containing a set of learning experiences that are planned and designed to help students. master specific learning objectives. This module functions to assist individuals in learning without a facilitator¹⁴.

The module developed in this research is the Stunting Prevention Module Anthology Counseling for Health Cadres, where the module is designed systematically based on a certain curriculum and is packaged in the form of the smallest learning unit and allows it to be studied independently in a certain amount of time. The counseling module functions as learning material used in training activities¹⁵. With the module, participants can learn more focused and systematic so that they can master competencies and provide learning instructions for participants during the training. Modules can function to reduce boredom when studying because there are variations in the presentation of material, they can be studied at any time because of their size. The relatively small size of the module, and containing various images, has its own appeal for readers¹⁶. The hope is that with the Stunting Prevention Module, Anthology Counseling for Health Cadres can help Health cadres in providing stunting prevention counseling, especially for pregnant women and toddlers¹⁷.

Implication and limitations

Research shows that the use of stunting prevention training modules can increase the knowledge of cadres involved in stunting prevention. This means that these modules can be a valuable tool for increasing the capacity of health workers or community volunteers to effectively address stunting problems. This study shows that this training module can also positively influence cadres' attitudes towards stunting prevention. This can increase the motivation and dedication of health workers and the community in overcoming stunting. Several studies emphasize the importance of culturally modifying training content, which can be critical in making training more effective in different situations.

Lack of Control Group: Some studies cite limitations due to the absence of a control group. This means that it is difficult to attribute the observed changes in knowledge and attitudes to the training module alone, as other factors may also play a role. Some studies may have small sample sizes, limiting the generalizability of their findings. Small samples can cause inaccurate or less representative results. The effectiveness of these training modules may depend on the specific local context, including cultural factors and healthcare infrastructure. Therefore, what works in one region may not necessarily work in another.

4. Conclusion

Based on the results of research and development related to the Stunting Prevention Module, Anthology Counseling for Health Cadres, it shows that the module developed using the ADDIE model (Analysis, Design, Develop, Implementation and Evaluation) shows that the module is valid and can be used by potential users of the module, namely health cadres. With this module, it is hoped that it can be used by Health cadres as a guide or learning resource in providing stunting prevention counseling, especially to pregnant women and toddlers, so that when providing counseling it is more focused and the final goal of the stunting prevention counseling program can be achieved optimally.

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Author contribution

All authors (RT, SAM, ASR) contributed to the completion of this paper providing significant contributions throughout the development of the manuscript, including conception, design, data analysis, writing, and revision.

Conflict of Interest

There is no conflict of interest in this study.

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