
Feasibility of a Pocket Book on Breast Milk and Family Planning Sub Materials Based on an Inventory of Plants that Facilitate Breast Milk

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Abstract In study of biology, explore the concepts rather than just memorise them is important. That's why use of media can make learning process more attractive and easy to understand for students. This study aimed to determine the feasibility of using breastfeeding and family planning sub-material pocket book media based on an inventory of breastfeeding-promoting plants in Pasti Jaya Village, Bengkayang Regency, West Kalimantan Province. The research and development process included identifying potential benefits and problems of media as a support for learning, gathering information on the plants, designing the product, and assessing the pocketbook with five validators. The pocket book was evaluated based on its presentation, content, and language, and the results showed that it's suitable for use as a learning tool. The validation results were then analyzed by Lawse calculations. The results showed that of the three aspects with twelve criteria, the validation content validity ratio value was 1.00 with a valid category. The average of all content validity index criteria obtained a value of 1.00 with a valid category, which shows that the breastfeeding and family planning sub-material pocketbooks are suitable for use as learning media.

Keywords: Feasibility, Pocket book, Learning Media

Introduction

The right learning process determines the quality of education. One of the factors that influences an ineffective learning process is a lack of variety in learning media (Paramita, et al., 2018; Puspitasari & Hanif, 2019; Fajriani, 2020; Shidiq, 2020). The teaching and learning process cannot be separated from the media. Learning media is an intermediary between educators and students in delivering the learning process (Sari & Setiawan, 2018; Twingsih & Elisanti, 2021; Panjaitan & Tenriawaru, 2022). Media is not just tools and materials, but something that allows students to gain knowledge (Rizawayani, et al., 2017; Sahronih, et al., 2020; Bulkani, et al., 2022). Media is used to achieve learning goals in schools (Arsyad, 2019; Suryani, 2018; Supriadi, et al., 2022; Bulkani, et al., 2022; Sulistri, et al., 2020; Rizawayani, et al., 2017). Learning with media can foster the same thinking between one student and another, so that there will be no misunderstandings in understanding the material (Astuti, et al., 2021; Hakim, 2015; Eslami, et al., 2019). Effective learning media can determine learning outcomes and

increase student activity in learning activities (Twingsih & Elisanti, 2021; Fajriani, 2020; Syawalludin, et al., 2019). In order to achieve effective and quality learning in schools, the choice of learning media should be carefully determined according to the material, and designed according to students' needs so that learning problems in the classroom can be solved (Panjaitan, et al., 2021; Suryani, 2018; Azizah, 2022; Twingsih & Elisanti, 2021). Using appropriate learning media makes the learning process more enjoyable and can build students' interest in learning (Tafonao, 2018; Haiyan, 2018; Panjaitan, et al., 2022; Mulyadi, 2016; Trianto, 2015; Sari & Setiawan, 2018). Currently, almost all teachers teach using power point media (Simamora & Mukthar, 2015). Learning using power point media often makes students less active and too monotonous, because they only receive an explanation of the material presented by the teacher (Astuti, et al., 2021).

Based on the results of interviews with class XI biology teachers at SMAN 2 Samalantan, the method used by teachers when delivery biology material is lectures with the media used, namely power point. The problem is that when the electricity goes out and there no proje is ctor, the teacher returns to teaching using a blackboard. Using a projector can also reduce learning time, because the projector used by the school is not permanent, and it takes time to install the projector before starting lessons. The power points used by teachers cover one chapter at a time, so the material presented is short and lacking in detail, making students less motivated when following the lesson. Thus, teachers need to use innovative and interactive media to bring about changes in learning activities (Rabgay, 2018; Syawalludin, et al., 2019).

Pocket books are a form of visual media that are effectively used in learning activities. A pocket book is a small book that is easy to carry and can be put in a shirt or trouser pocket (Salyani, et al., 2018; Nurmala, et al., 2019; Zuhra, et al., 2017; Mariya, et al., 2022). The pocket book contains material whose delivery can be uniform, the material presented is shorter, clearer and easier to understand, and the use of the pocket book is more efficient in terms of time and energy (Mitalia, et al., 2018; Zuhra, et al. 2017). The pocket book presents an attractive appearance, and is accompanied by colorful pictures. This is because students prefer interesting reading with little description, lots of pictures and colors (Lestari, et al., 2021; Hanif, et al., 2018; Salyani, et al., 2018; Mariya, et al., 2022). Pocket books have no limitations in use, because they can be used by all groups easily. Its use in the classroom learning process can coexist with other media, and does not require supporting equipment or special equipment (Zuhra, et al., 2017). The results of previous research show that learning using pocket books can increase students' interest and learning outcomes in biology material for class

Biology learning has great potential in recognizing the surrounding environment. Biology is a main subject in the field of science where the learning process is exploration and discovery, not just memorizing (Khairi, et al., 2022; Wahyuni, et al., 2020; Aghasafari, 2021). One of the materials in biology subjects is the reproductive system. The breastfeeding and family planning sub-material in the 2013 curriculum syllabus is part of the reproductive system material for class XI semester 2 (even). Biology learning also examines local potential (Lestary, et al., 2021; Wahyuni, et al., 2020). One piece of information related to local potential in biology learning is the use of plants by the community to facilitate breast milk. Knowledge in the use of plants for medicine is generally possessed by rural communities, especially those living around forest areas and has not been documented (Marpaung, 2018). Therefore, it is necessary to carry out an inventory so that the use of plants is known to the public and students.

Based on the explanation above, this research aims to determine the feasibility of a pocket book on breast milk and family planning sub-materials based on an inventory of

breast milk facilitating plants as a learning medium. The results of the feasibility of pocket book media are expected to provide variations in material content that are not found in textbooks. Different information is also expected to broaden students' knowledge in academics and foster students' curiosity.

Methods

This research uses a development method (research and development) which consists of 5 stages (Sugiyono, 2019). The stages of this research include the potential and problem stages, related to the analysis of learning problems that occur in the classroom and the benefits of media as a support for the learning process. The information gathering stage is through the results of an inventory of breast milk-stimulating plants in Pasti Jaya Village, Bengkayang Regency, West Kalimantan Province which was carried out by interviewing 10 respondents. The selection of respondents used snowball sampling techniques, namely by first determining key respondents, then determining other respondents based on information from previous respondents (Sugiyono, 2019). After that, field observations and documentation of breast milk-stimulating plants were also carried out using a camera. The stage of designing the product according to the pocket book components. Design validation stage, pocket book assessment by five validators. Design revision stage based on suggestions from validators. The preparation of the pocket book media went through several stages, namely looking for information related to breast milk-stimulating plants. From the information obtained, then design the contents of a pocket book with a general description of breast milk-stimulating plants, classification, parts of plants used and methods of processing plants used by the community to facilitate breast-feeding, as well as breast-feeding and family planning sub-materials, then identify the characteristics and needs of students, adapt material and learning objectives with the syllabus, determining the title of the pocket book, arranging the components contained in the pocket book, editing text, images, colors and margins. The next stage is design validation to determine the suitability of this pocket book as a learning medium. The validation sheet that is assessed in the pocket book testing is the presentation, content and language aspects. The suitability of the pocket book was assessed by five validators, and the determination of validators was based on their expertise in the field of biology and biology learning. The final stage is data analysis based on validator assessments and validity calculations referring to Gregory (2011). The formula for calculating content validity index (CVR) is:

$$CVR = \frac{ne - \frac{N}{2}}{\frac{N}{2}}$$

Information:

ne = number of experts who agree

N = number of all validating experts

Based on the Lawshe equation, a CVR value can be obtained for each question item. With the provisions of the CVR value from Gregory (2011) is:

- 1) If the validators who agree are less than half of the total number of validators then the CVR value is negative;
- 2) If the validators who agree are exactly half of the total number of validators then the CVR value is zero;
- 3) If all respondents agree then the CVR value = 1.00;
- 4) If the validators who agree are more than half of the total number of validators then the CVR value is between 0 – 0.99.

After identifying the questions on the validation sheet using CVR, the content validity index CVI) is calculated. The CVI value is obtained using the formula:

$$CVI = \frac{\sum CVR}{\text{Total Item Test}}$$

Results and Discussion

This research is development research, namely research and development (R&D). The pocket book developed in this research is a sub-material on breast milk and family planning which is enriched with the results of an inventory of breast milk facilitating plants. The pocket book consists of three parts, namely the introduction, including a foreword which explains thanks to various parties who have helped in preparing the pocket book, a table of contents which consists of titles and subtitles as well as page numbering, and how to use it which contains an explanation of the book. pocket in general. Also equipped with basic competencies, achievement indicators and learning objectives, as well as an introduction to breastfeeding. The contents of the pocket book contain an explanation of the importance of breast milk, the meaning of lactation, hormones that influence lactation, the benefits of breast milk for babies, the importance of family planning and contraceptives, the sub-material also includes supporting pictures and knowledge information. The pocket book is equipped with the results of an inventory of breast milk-stimulating plants used by the community. Information about breast milk-stimulating plants includes species names, pictures and descriptions of the parts used and processing methods. The closing section includes a bibliography containing reference sources or references used, and a glossary containing foreign language terms that help readers understand the intended meaning of these terms.

After the learning media has been created and printed, it continues with the validation process (Panjaitan, et al., 2021). The purpose of this validation is to see the validity of a learning media so that it can be used in teaching and learning activities in schools (Khairi, et al., 2022; Astuti, et al., 2021). The results of the validation of the breast milk and family planning sub-material pocket book media based on the inventory of breast milk promoting plants can be seen in Table 1.

Table 1.Validator Assessment of Breast Milk and Family Planning Sub-Material Pocket Book Media Based on Inventory of Breast Milk Facilitating Plants

Aspect	Criterion	Validator Number					CVR	Annotation
		1	2	3	4	5		
Presentation	1. Selection of images and colors on the pocket book media cover	3	4	4	4	4	1.00	Valid
	2. Completeness and systematization of presentation of pocket book components	4	4	4	4	4	1.00	Valid
	3. Eligibility and attractiveness of	3	3	4	4	4	1.00	Valid

	images/illustrations, layout and background.							
	4. Eligibility and attractiveness of the type and size of letters used	4	3	4	3	4	1.00	Valid
	5. Use of flexible pocket books	4	4	4	4	4	1.00	Valid
	6. The effectiveness of pocket books as a learning medium	4	4	4	4	4	1.00	Valid
	7. Conformity between sub-material in the pocket book with KD, learning indicators, and learning objectives achieved	4	3	4	4	4	1.00	Valid
Content	8. Accuracy of the display of research data	4	3	4	4	4	1.00	Valid
	9. Accuracy of the list of supporting references (library).	4	4	4	4	4	1.00	Valid
	10. Completeness and clarity of the glossary	4	4	4	4	4	1.00	Valid
	11. The use of language in pocket book media is in accordance with PUEBI rules	4	3	4	3	4	1.00	Valid
Language	12. The use of sentences in the pocket book is easy to understand and does not give rise to multiple interpretations	4	3	4	4	4	1.00	Valid
Overall average CVI							1,00	Valid

The analysis results obtained from three aspects with twelve criteria obtained a validation value of 1.00 with the valid category. The average of all criteria CVI obtained a value of 1.00 with the category valid or suitable for use.

Presentation Aspect

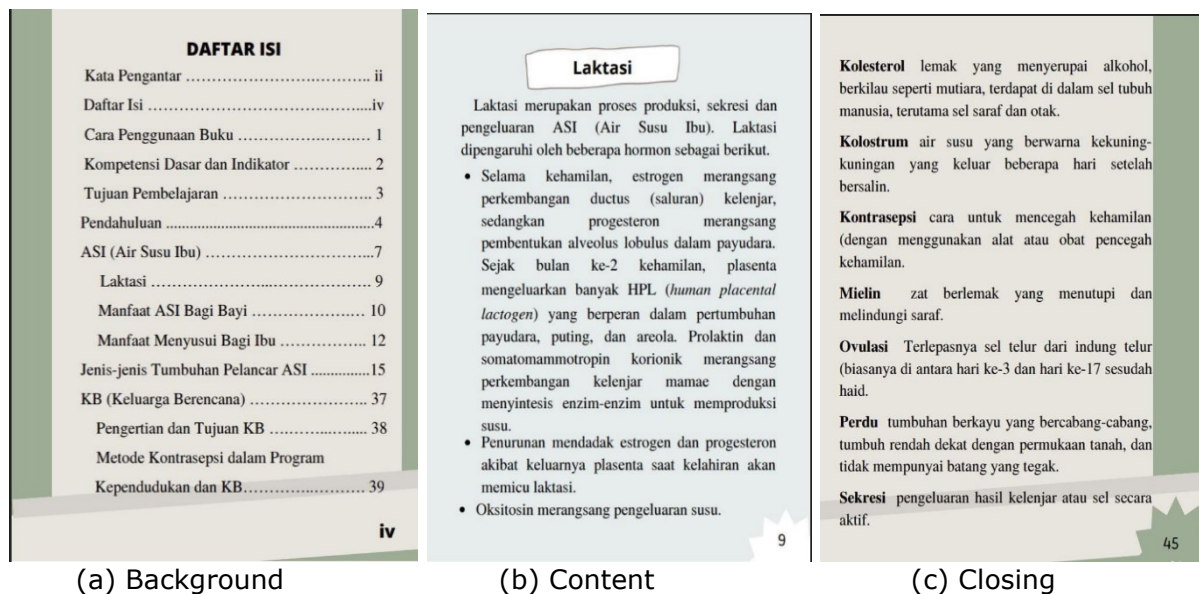
The presentation aspect received a score of 1.00 in the valid category. The presentation aspect in the pocket book consists of six criteria. The first criterion is the selection of images and colors on the pocket book media cover. The validation results show that the pocket book cover meets the standard components of learning media, namely an attractive cover image, cover title writing that is clear and easy for students to understand (Figure 1). This is in line with the opinion of Sulistri, et al., (2020) who state that media cover design must be proportional, the choice of image and color of the cover

can attract students' attention to read it. The colors used in the cover of the pocket book are sage green and grayish blue. As stated by Listya (2018), the choice of background color must avoid orange, bright red and black.



Figure 1. Cover presentation pocket book (in Bahasa)

The second criteria is the completeness and systematization of the presentation of the pocket book components. The validation results show that the pocket book media has been prepared completely and systematically. The preparation of this pocket book media includes three parts, namely the introduction, including foreword, table of contents, methods, basic competencies, achievement indicators, learning objectives, and an introduction to breastfeeding; content section, including sub-materials and an inventory of breast milk-stimulating plants; The closing section includes a bibliography and glossary (Figure 2). As stated by Panjaitan, et al. (2022); Mitalia, et al. (2018) that the completeness of the information in the media is presented in a non-monotonous manner and is easy for students to understand academically. According to Paramita, et al. (2018) in media development it must be designed systematically, so that the media developed can support the learning process.



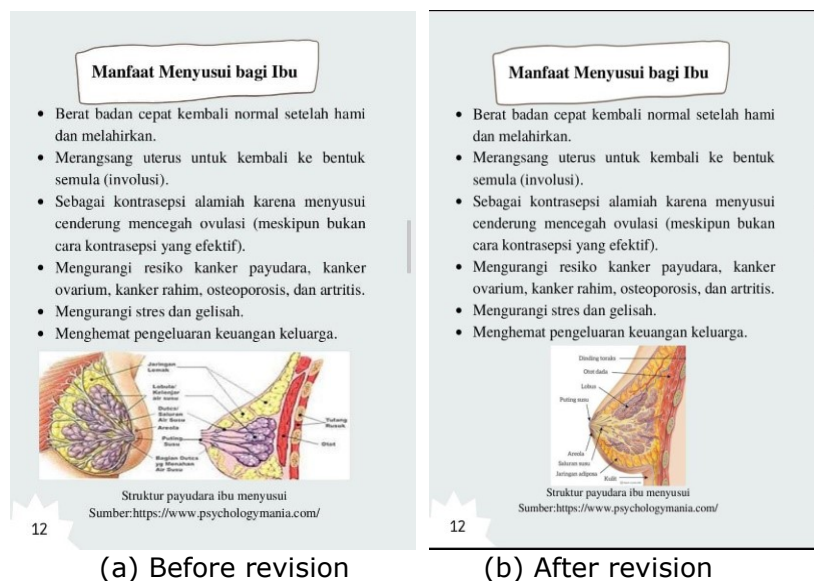
(a) Background

(b) Content

(c) Closing

Figure 2. Components in the pocket book

The third criteria is the suitability and attractiveness of the image/illustration, layout and background. Based on the validation results by the validator, there is a suggestion that the images used are blurry and the writing was not clear, the validator's suggestion was to use images with high resolution HD (high definition) (Figure 3). The images included in the pocket book correspond to the description/illustration. As Arsyad (2019) said; Priyonggo (2019); Suryani (2018) states that images published in the media can display the concepts of the material being conveyed. Furthermore, according to Hanif, et al. (2018); Lestari, et al. (2021); Salyani, et al. (2018) that students prefer interesting reading with little description and lots of pictures or colors.



(a) Before revision

(b) After revision

Figure 3. Presentation of Image pocket book (in Bahasa)

The fourth criteria is the suitability and attractiveness of the type and size of the letters used. Based on the validation results by the validator, there is a suggestion from the validator that the title should use all capital letters so that is consistent (Figure 4). The font type and size varies, but remains consistent for the different components in each booklet sheet. There are 4 types of letters used, namely times new roman for the content, open sans for the subtitle, shrikhand for the title, and chau philomene for the cover title. The font size used between 9 – 24 points. As stated by Panjaitan, et al. (2022) that the use of the correct type and size of letters that are appropriate to the media being developed can influence reader's readability. Furthermore, according to Sulistri, et al. (2020); Mariya, et al. (2022) that when creating designs for media, they must meet requirements, namely ensuring that the font is legible to readers.

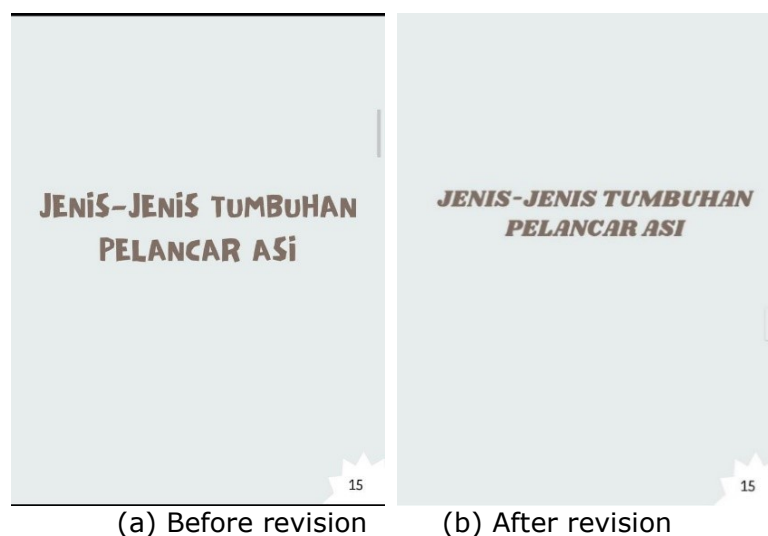


Figure 4. Use of font type and size in pocket book media subtitles (in Bahasa)

The fifth criteria is the use of a flexible pocket book. The pocket book is sized 13x10 with 54 pages so it can be said to be light, easy to carry anywhere and can be used in the classroom or outside the classroom. This is in line with the opinion of Mutmainah, et al. (2014) that a 13x10 pocket book corresponds to the size of a school uniform pocket and is less than 80 pages. As stated by Nurmala (2019); Zuhra, et al. (2017); Salyani, et al. (2018) that a pocket book is a small book that is stored in a pocket, easy to carry anywhere and can be read at any time. The sixth criterion is the effectiveness of pocket books as a learning medium. The validation results show that the pocket book created is effective as a learning medium because it presents information that is short, clear, easy to understand, and contains lots of pictures. As stated by Mitalia, et al. (2018); Hanif (2018) states that packaging information in the form of a pocket book is effective in teaching material and invites curiosity (interesting) for students.

Content Aspect

The content aspect received a score of 1.00 in the valid category. The content aspect consists of four criteria. The first criterion is the suitability between the sub-material in the pocket book and KD, learning indicators, and the learning objectives achieved. The validation results show that the information contained in the pocket

contents is in accordance with KD, achievement indicators and learning objectives (Figure 5). According to Budiastuti, et al. (2021); Trianto (2015) the first step in creating learning media is to determine the KI, KD and Indicators first. The indicators are then developed into learning objectives which are analyzed according to the characteristics of students (Arviansyah, et al., 2022). Minimum learning objectives can foster a person's willingness to learn and improve skills in realizing good learning objectives, in order to create a maximum learning process, the planning stage is very important to carry out (Budiastuti, et al., 2021).



Figure 5. Basic Competencies, Achievement Indicators and Learning Objectives (in Bahasa)

The second criteria is the accuracy of the display of research data. The validation results show that the pocket book created presents accurate information because it contains a number of factual information from research results on the inventory of breast milk-stimulating plants. The data from this research is in the form of local names/Latin names of plants, pictures, descriptions relating to the parts used and processing methods (Figure 6). This is in line with Arsyad (2017); Nurmala (2019); which states that the addition of research results in the media can clarify the presentation of messages and information in a more varied learning process.

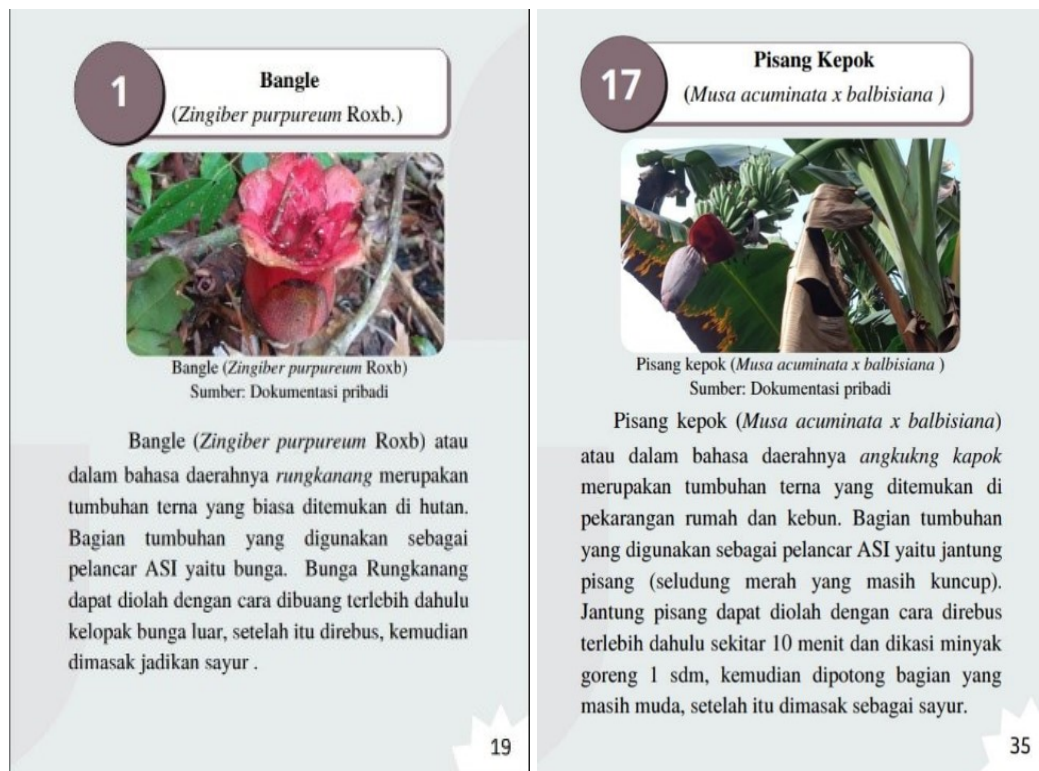


Figure 6. Presentation of Information on Inventory of Plants that Facilitate Breast Milk (in Bahasa)

The third criteria is the accuracy of the list of supporting references (libraries). The validation results show that the pocket book created presents information that is in accordance with the references used (Figure 7). According to Fajriani, et al. (2020); Khairi, et al. (2022) that the availability of a bibliography can help students know the reference sources to use. The fourth criteria is the completeness and clarity of the glossary. The validation results show that the glossary in the pocket book is accurate and complete because all foreign words have been included in the glossary (Figure 7). As stated by Ghonia & Naryatmojo (2019), the glossary in the book contains explanations of concepts that are relevant to a particular field of science or activity, a dictionary in concise form that contains certain words in the field.



Figure 7. Presentation of Bibliography and Glossary in Pocket Books (in Bahasa)

Language Aspect

The language aspect received a value of 1.00 in the valid category. The language aspect consists of two criteria. The first criteria is the use of language in pocket book media in accordance with PUEBI rules. Based on the validation results, there are suggestions for improvement by the two validators, namely that when writing the scientific names of *Moringa* species, they should be italicized according to the binomial nomenclature. The scientific name for moringa was previously written as *Moringa oleifera* L., which is actually *Moringa oleifera* L. (Figure 8). The pocket book created uses language that complies with PUEBI, because it uses capital letters at the beginning of paragraphs, consists of at least predicates and objects, and uses correct punctuation. According to Budiastuti, et al. (2021); Salyani, et al. (2018); Ghonia & Naryatmojo (2019); Panjaitan, et al. (2021) that using language that is in accordance with the General Guidelines for Indonesian Spelling (PUEBI) can make it easier for readers to understand the material presented. The second criteria is that the use of sentences in the pocket book is easy to understand and does not give rise to multiple interpretations. The validation results show that the use of sentences in the pocket book created does not give rise to multiple interpretations and misunderstandings for readers, because terms that are not understood can be seen in the glossary. This is in line with Lestari, et al. (2021); Paramitha, et al. (2018) Simamora & Mukhtar (2015) who say that textbooks contain information, messages, knowledge contained in written form, and can be conveyed to readers with logical sentences, and are easily accepted by readers.

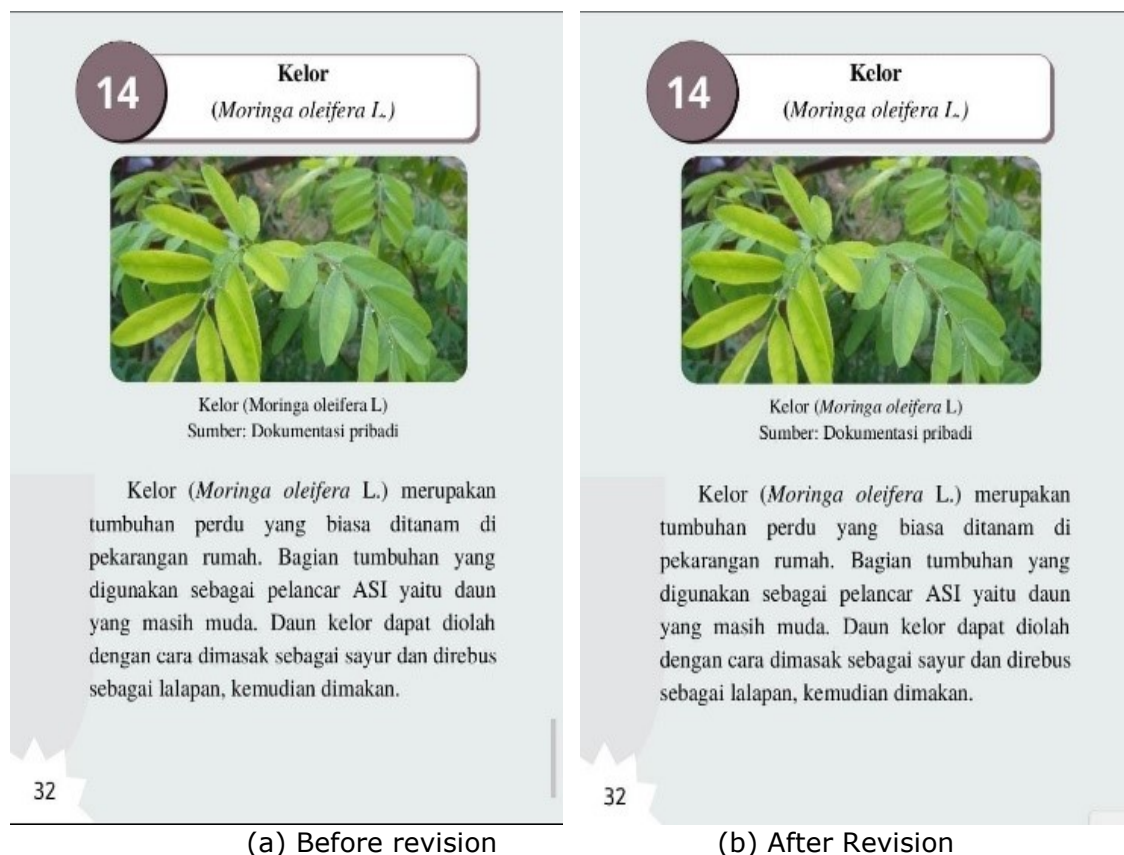


Figure 8. Use of language in pocket book media in accordance with PUEBI rules (in Bahasa)

Conclusion

The results of media validation by five validators show that from three aspects with twelve criteria, a CVR value of 1.00 was obtained in the valid category and the average of all criteria CVI was obtained with a value of 1.00. valid or suitable category for use. Thus, the pocket book on breast milk and family planning sub-materials based on an inventory of breast milk promoting plants is suitable for use as a learning medium.

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