



# Developing a Digital Hair and Skin Care Guide for Women Who Wear the Hijab

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ARTICLE INFO	ABSTRACT
<p><b>Article history:</b> Received: 22 February 2026 Received in revised form: 17 March 2026 Accepted: 4 April 2026 Available online: 9 June 2026</p> <p><b>Keywords:</b> Digital guidebook; Hair care; Veiled women</p>	<p>This study aims to (1) develop a digital hair and scalp care guidebook for women who wear the hijab, (2) develop steps for its development, and (3) determine the feasibility of the product. The method used is Research and Development (R&amp;D) with a 4D development model: define (needs analysis with 37 respondents), design (drafting materials and visuals in Canva), develop (expert validation and trial), and disseminate (dissemination through the digital library of Yogyakarta State University). The study was conducted from July 2025 to March 2026 in Yogyakarta and the Faculty of Vocational Studies, UNY, with subjects consisting of three expert validators, 10 limited-scale test panelists, and 30 user test panelists. Data analysis was conducted using descriptive percentages. The results show: (1) The book design includes identification of hair problems for women who wear the hijab, material content, selection of hijab fabric and hair ties, and hair care according to hair problems. (2) The manufacturing steps include collecting literature, visual documentation, and compiling 1 page of material in PDF format. (3) The product's feasibility was declared very feasible based on scores from material experts of 92.5%, media experts 98.7%, limited scale testing 93%, and user testing reaching 97.25%. Based on these results, it can be concluded that this digital hair and scalp care guidebook product for women who wear the hijab is very suitable for use as a practical reference.</p>

## 1. Introduction

Hair and scalp are crucial for a person's health and appearance, especially for women. Hair is often considered a woman's crowning glory, meaning that any disruption to its health can significantly impact self-confidence [1]. Healthy hair and scalp are generally characterized by the absence of problems such as dandruff, hair loss, dryness, excess oil production, dullness, and difficulty styling. A healthy scalp also displays no symptoms such as redness, itching, acne, bumps, or irritation. Hair and scalp health are greatly influenced by scalp hygiene, natural oil balance, and regular and appropriate hair care [2].

Public awareness of the importance of self-care continues to increase, including in hair and scalp care. However, there is still a gap between ideal hair care practices and the actual conditions in society. Various factors can affect hair and scalp health, such as an unbalanced diet, stress, sun

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exposure, air pollution, the use of chemicals, and inappropriate hair styling habits. Furthermore, hair styling practices such as straightening, curling, and the use of heating tools, as well as a lack of regular maintenance, can also trigger various hair and scalp problems [3]. Hair damage caused by excessive styling is often exacerbated by the selection of inappropriate care products available on the market [4].

These problems are further complicated for women who wear the hijab. Indonesia is the country with the largest Muslim population in the world, and the majority of Muslim women wear the hijab as a form of obedience to religious teachings. Wearing the hijab for relatively long periods can create a more humid scalp and reduce air circulation to the hair and scalp. This condition can potentially lead to various problems, such as limp hair, increased oil production, dandruff, and hair loss. Furthermore, a lack of understanding of proper hair care practices for women who wear the hijab can also exacerbate hair and scalp health conditions.

On the other hand, current advances in information technology provide significant opportunities for disseminating educational information through digital media. Digital media allows information to be presented in a more engaging, interactive manner, and easily accessible anytime and anywhere. The use of visually-driven media has been proven to enhance information retention for readers with diverse learning styles [5]. One form of digital media that can be utilized to deliver educational information is digital guidebooks. Digital guidebooks have advantages over conventional media because they can contain a more engaging combination of text, images, and other visual elements, making it easier for readers to understand the material.

Several previous studies have discussed hair and scalp care and the use of digital media in education and beauty. Various studies have shown that digital-based learning media can improve user understanding of material due to its more systematic and engaging presentation. However, most research still focuses on general hair care and has not specifically addressed the hair and scalp care needs of women who wear the hijab. Furthermore, there is limited research developing educational media in the form of digital guidebooks specifically aimed at providing information on hair and scalp care for women who wear the hijab.

These limitations indicate a research gap that requires further study. Information on hair care for women who wear the hijab is still not widely available in the form of practical, systematic, and easily accessible educational media. However, women who wear the hijab have different characteristics and hair care needs than women who do not wear a head covering in their daily activities. Therefore, educational media is needed that can provide accurate information on hair and scalp care specifically for women who wear the hijab.

Based on these issues, this study seeks to develop a digital guidebook on hair and scalp care for women who wear the hijab. This media development is expected to be a source of information that is easy to understand, engaging, and practically accessible to the public. Cloud-based applications such as Canva offer high flexibility for educational content creators to design professional layouts without requiring complex programming skills [6]. Furthermore, this digital guidebook is expected to help increase knowledge and awareness among women who wear the hijab regarding the importance of proper hair and scalp care.

This research has novel value because it integrates information on hair and scalp care specifically for women who wear the hijab into a systematic and educational digital guidebook. Unlike previous research that focused more on general hair care, this study specifically focuses on the hair care needs of women who wear the hijab in their daily activities.

The primary objective of this study is to develop a digital guidebook on hair and scalp care for women who wear the hijab that is suitable for use as an educational tool. Furthermore, this study also aims to determine the suitability of the developed digital guidebook based on expert and user

assessments. Therefore, the results of this study are expected to contribute to the development of educational media in the field of makeup and beauty, particularly regarding hair care.

## **2. Method**

The aim of this study was to produce a digital guidebook on hair and scalp care for women who wear the hijab and to test the feasibility of the product. The method is research and development were chosen because this research focuses not only on theoretical analysis but also on the process of designing, manufacturing, and evaluating a product that can be used as an educational medium. The research design used in this study refers to a development model consisting of several systematic stages. The 4D development model, consisting of the Define, Design, Develop, and Disseminate stages, was chosen due to its systematic structure, making it highly suitable for producing instructional media products [7].

The research design used in this study refers to a development model consisting of several systematic stages. The research stages begin with needs analysis, product design, product development, expert validation, product revision, and user trials. Each stage is carried out sequentially to ensure that the resulting product meets user needs and has a good level of feasibility as an information medium.

The first stage of this research is a need analysis. At this stage, the researcher identified problems related to hair and scalp care for women who wear the hijab and the information needs of the community. The needs analysis was conducted through literature review and observation of various information sources related to hair and scalp health. The results of this stage were used as the basis for determining the material and content to be included in the digital guidebook. The next stage is product design. At this stage, researchers developed a concept for the digital guidebook, including determining the content structure, organizing the material, and designing the book's visual appearance. The material included information on hair and scalp structure, types of hair problems, factors that cause hair damage, and hair and scalp care steps specifically for women who wear the hijab. Furthermore, the guidebook is equipped with easy-to-understand illustrations and explanations to help readers better understand the material.

The next stage is product development, which is the process of creating a digital guidebook based on the previously developed design. At this stage, researchers systematically organized the material, arranged the layout, and added visual elements such as images and illustrations to support the information delivery. The product produced at this stage is an initial draft of the digital guidebook, ready for validation.

After the initial product development was completed, the next stage was expert validation. Validation was conducted to determine the suitability of the digital guidebook. The validation process involved several experts with competencies in related fields, such as material experts and media experts. The experts were asked to assess several aspects, including the suitability of the material, clarity of information, media display, and ease of use of the digital guidebook. The expert assessment results were then used as a basis for improving the developed product.

Based on the expert validation results, researchers revised the product to address deficiencies in the digital guidebook. Revisions were made by taking into account the suggestions and input provided by the validators to ensure the resulting product was better and aligned with the research objectives.

The next stage was a user trial of the product. This trial was conducted to determine user responses to the developed digital guidebook. Participants in this trial were women who wear headscarves, the target users of the digital guidebook. Through this trial, researchers were able to

determine the extent to which the digital guidebook was understandable, engaging, and useful for users in obtaining information about hair and scalp care.

The research instrument used in this study was a questionnaire or assessment form administered to experts and users. The questionnaire was used to collect data on product feasibility based on several assessment indicators, such as material aspects, presentation aspects, appearance aspects, and ease of use. The use of rating scales in the questionnaire helped convert qualitative responses from experts into objective quantitative data [8]. The data obtained from the questionnaire were then analyzed to determine the feasibility of the developed digital guidebook.

Data collection techniques in this study included an assessment questionnaire and documentation. A questionnaire was used to obtain data regarding expert and user assessments of the product being developed, while documentation was used to support the research process and record each stage of product development. Data collection techniques in this study included an assessment questionnaire and documentation. A questionnaire was used to obtain data regarding expert and user assessments of the product being developed, while documentation was used to support the research process and record each stage of product development. The data analysis technique used in this study was quantitative descriptive analysis. Data obtained from the assessment questionnaire were calculated as a percentage to determine the level of suitability of the digital guidebook

### 3. Results and Discussion

The development of a digital guidebook on hair and scalp care for women who wear the hijab was conducted using the 4D development model, which includes the Define, Design, Develop, and Disseminate stages. The resulting product is a 102-page e-book in PDF format. The book covers a variety of topics, from recognizing and identifying hair problems, selecting the right type of hijab fabric, to a practical step-by-step guide to hair care.

The define stage aimed to identify the need and urgency for developing this tool. Based on initial observations involving 37 respondents, it was discovered that wearing the hijab for approximately 8–12 hours per day can create a damp scalp with poor air circulation. This condition has the potential to cause various hair health problems. Some of the most common problems among respondents were dandruff (48.6%), hair loss (48.6%), and limp hair (35.1%). These findings align with research conducted by Puspitasari et al, which stated that women who wear the hijab face unique challenges in maintaining healthy hair and scalp [3]. Furthermore, all respondents (100%) expressed interest in learning media in the form of digital books. Seventy-five percent of them also indicated a preference for PDF format, as it was considered more practical and accessible.

Following up on the needs analysis results, the design phase focused on systematically organizing the material and providing an attractive visual presentation. The design process utilized the Canva platform to create a more informative and easy-to-understand book layout. The book was structured into several chapters that discuss various important aspects, such as selecting the right hijab and hair tie materials, as well as shampooing and scalp massage techniques that can help address various hair problems identified in the previous phase.

Product Feasibility Based on Validity Testing The development phase involved validation by material and media experts to ensure the credibility of the content and functionality of the media.

**Table 1.** Summary of Product Validation and Trial Results

No.	Subject Survey	Presentase Skor	Category
1.	Subject Matter Expert	92,5%	Very Worthy
2.	Media Expert	98,7%	Very Worthy

No.	Subject Survey	Presentase Skor	Category
3.	Limited Scale Test (10 Respondents)	93,0%	Very Worthy
4.	User Test (30 Respondents)	97,25%	Very Worthy

The validation results from the material experts showed a score of 92.5%, indicating that the hair care content in the book is highly accurate and relevant to today's Muslim women's lifestyles. The material experts provided constructive feedback in the form of summaries at the end of each chapter to strengthen readers' understanding. Meanwhile, the media expert validation achieved the highest score of 98.7% (or 98% in the final review), indicating that the book's layout, font selection, and digital navigation were highly effective. Revisions at the media stage included consistency in institutional naming and providing clearer space for image sources.

The dissemination stage indicates the level of product acceptance by the public as end users. Based on the results of a pilot test involving 30 respondents, the ease of access aspect scored 97.5%. These results indicate that this digital guidebook can be easily accessed through various devices, such as smartphones and laptops, using a Google Drive link. This ease of access provides users with the flexibility to read and utilize the material at any time. These findings align with research conducted by Nurhalida et al., which states that the use of digital media can increase learning motivation because information can be accessed flexibly without being limited by time or location.

In general, the results of this study align with the initial objective of the study, namely to provide systematic educational media for women who wear the hijab to understand hair and scalp care. The main difference between this study and previous research, such as that conducted by Tritania et al., lies in its approach, which not only identifies problems but also offers practical solutions that can be immediately implemented by users [9]. The product developed in this study not only explains the causes of various hair problems but also provides a step-by-step guide to care, presented visually and systematically. The presentation of the material, based on the real needs of users in the field, contributes to increasing practical understanding for readers.

#### 4. Conclusions

The research results indicate that the development of a digital guidebook on hair and scalp care for women who wear the hijab has been successful and meets user needs as a practical and informative educational tool. The development of this interactive e-book was motivated by the limited public knowledge regarding hair care specifically for hijab wearers. Therefore, a learning medium that is easily accessible, engaging, and able to present information clearly to readers is needed. The development of this digital guidebook utilized Microsoft Word and Canva software as the primary tools in the compilation and design process. The resulting digital book, 123 pages long, is systematically organized, from the cover, table of contents, five chapters of main material, and a glossary. All materials are complemented by visual illustrations aimed at clarifying the discussion and facilitating readers' understanding of the steps involved in hair and scalp care.

The process of creating this digital guidebook involved several structured stages, starting with data collection and photo documentation of each hair care step, and ending with the layout arrangement, which was then converted into a digital PDF format. Before being widely used, this guidebook first went through a validation process by the supervising lecturer, material experts, and media experts to ensure the quality of the content and media presentation. After the validation process was completed, the product was then tested on 30 respondents consisting of students and women who wear the hijab as potential users. The assessment results showed that this digital

guidebook has a very high level of feasibility. This is evidenced by a validation score of 92.3% from the material experts and 98% from media experts. Furthermore, the results of the respondent assessment showed a satisfaction level of 97.3%. Based on these achievements, this digital guidebook is included in the category of very suitable for use. Thus, the developed e-book can be used as a source of practical information and an effective learning medium for women who wear the hijab in maintaining healthy hair and scalp.

### **Conflict of interest**

The authors declare no conflict of interest

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