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Needs Assessment of Digital Video-Based Anaemia Education for Prospective Brides in Premarital Health Services at Public Health Centres in Bengkalis District

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Abstract
Anaemia among women of reproductive age remains a public health concern because it may affect preconception readiness, pregnancy outcomes, and maternal and fetal health. Prospective brides are a strategic group for receiving anaemia education before pregnancy. This study aimed to analyse the need for digital video-based anaemia education among prospective brides attending premarital health services at public health centres in Bengkalis District. This preliminary study used a descriptive quantitative approach with a needs assessment design. The study was conducted in January 2026 and involved 30 prospective brides selected through total sampling. Data were collected using a structured questionnaire with yes/no responses covering basic knowledge of anaemia, reproductive and pregnancy-related impacts, prevention efforts, previous information sources, perceptions of anaemia as a premarital health issue, educational needs, perceptions of digital media, feasibility of video media, media availability, and willingness to receive digital video-based education. Data were analysed descriptively using frequencies and percentages. The need percentage was calculated by dividing the total number of "yes" responses by the total responses across all subitems. The results showed that 94.42% of responses were "yes" and 5.58% were "no". Most respondents were aged 20–25 years and had an undergraduate educational background. These findings indicate high acceptance and perceived need for digital video-based anaemia education as an initial basis for developing premarital educational media. However, this study did not evaluate the effectiveness of the media in improving knowledge, attitudes, or preventive behaviour.

Keywords: anaemia; prospective brides; digital video media; needs assessment; premarital service

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INTRODUCTION

Anaemia is a condition in which haemoglobin concentration falls below the normal threshold, reducing the blood's ability to transport oxygen to body tissues. This condition may interfere with physiological function, productivity, concentration, and women's reproductive health readiness (Minasi et al., 2021). Among women of reproductive age, anaemia is an important public health issue because it is associated with menstruation, iron requirements, nutritional status, and readiness for pregnancy. The World Health Organization has identified anaemia reduction among women of reproductive age as part of the global nutrition targets, with a 50% reduction target by 2025 (World Health Organization, 2014). WHO also recommends iron supplementation for menstruating adult women and adolescent girls as a public health intervention to prevent anaemia and iron deficiency (World Health Organization, 2016).

Anaemia is not only a pregnancy-related problem but also a condition that should be prevented during the preconception period. Prospective brides are an important target group because they are in a transitional phase before marriage and possible pregnancy. Pre-pregnancy health status may influence maternal readiness, fetal health, and the risk of pregnancy complications. At the local level, data from the Bengkalis

District Health Office showed that 980 pregnant women had haemoglobin levels below 11 g% during January–December 2023 (Dinas Kesehatan Kabupaten Bengkalis, 2025). This finding indicates that anaemia remains a health problem requiring attention within maternal and child health services in Bengkalis District.

Premarital health services can serve as an entry point for strengthening anaemia prevention. The Indonesian Ministry of Health has provided reproductive health materials for prospective brides and grooms, and preconception services for prospective brides may include physical examinations, laboratory tests, immunisation, nutritional supplementation, health counselling, and psychological services (Kementerian Kesehatan Republik Indonesia, 2020; Yulivantina et al., 2021). The 2023 Health Profile of Riau Province reported that, among 89,698 registered prospective brides and grooms, only 40,172 people or 44.8% received premarital health services at health facilities (Dinas Kesehatan Provinsi Riau, 2023). This indicates that premarital services still need improvement in terms of both coverage and educational quality.

Public health centres have a strategic role as first-level health facilities in providing anaemia education for prospective brides. Education delivered during the premarital period can help prospective brides understand the definition of anaemia, risk factors, signs and symptoms, reproductive and pregnancy-related impacts, and prevention efforts, including haemoglobin examination, iron tablet consumption, and nutritious dietary practices. The Indonesian Ministry of Health has also provided technical guidelines for iron tablet supplementation to support anaemia prevention programmes among different target groups (Kementerian Kesehatan Republik Indonesia, 2021).

However, health education delivery in premarital services often faces several limitations, including limited consultation time, limited availability of health workers, variations in clients' understanding, and the absence of standardised educational media. Printed media such as leaflets and direct communication, information, and education activities are still frequently used in premarital education. Previous studies have shown that health communication and education can improve prospective brides' knowledge regarding healthy pregnancy preparation (Dewi & Putri, 2025). Community-based education on nutritional anaemia and chronic energy deficiency has also been implemented for prospective brides (Suriah et al., 2018). Nevertheless, evidence on the use of digital video media specifically for anaemia education among prospective brides remains limited compared with leaflets, direct education, and premarital classes.

The development of information technology provides opportunities to use digital video media as a health education tool. Video media has advantages because it presents information through a combination of audio, visuals, text, images, and narrative flow. These characteristics may help target audiences understand health messages more concretely, attractively, and repeatedly according to their needs (Anam et al., 2021). In premarital services, digital video media can be used as a supportive counselling tool, not as a replacement for health workers. Videos can help standardise educational messages, reduce the time required for basic explanations, and allow prospective brides to review information after receiving services.

Previous studies among adolescent girls have reported that educational videos can improve knowledge and attitudes regarding anaemia prevention (Fadhilah et al., 2021; Nikmah et al., 2025). However, these findings cannot be directly generalised to prospective brides due to differences in characteristics, information needs, service context, and reproductive readiness. Prospective brides need education that not only explains anaemia in general but also links anaemia prevention to pregnancy preparation, premarital examination, iron tablet consumption, dietary practices, and follow-up health services.

The research gap of this study lies in the limited empirical information regarding prospective brides' needs for digital video-based anaemia education in premarital health services in Bengkalis District. Previous studies have more frequently discussed anaemia education among adolescent girls or pregnant women, while specific studies focusing on prospective brides as a preconception group remain limited. In addition, premarital education reported in existing studies has commonly used direct education, leaflets, or educational classes rather than digital videos specifically addressing anaemia. Therefore, a needs assessment is required as an initial stage before developing the media, validating it with experts, and testing its effectiveness.

Based on this background, this study aimed to analyse the need for digital video-based anaemia education among prospective brides attending premarital health services at public health centres in Bengkalis District. The findings are expected to provide an initial basis for developing educational media that are contextual, accessible, and aligned with the needs of the target audience. This study did not aim to test the effectiveness of digital video media; rather, it assessed the initial need for and acceptance of such media among prospective brides**.**

METHODS

This study used a descriptive quantitative approach with a needs assessment design. This design was selected because the study aimed to describe the needs, perceptions, and acceptance of prospective brides regarding the planned development of digital video-based anaemia education, rather than to test the effectiveness of an intervention. This study was a preliminary study intended to provide an initial basis for educational media development.

The study was conducted in January 2026 within premarital health services at public health centres in Bengkalis District. The specific name or number of public health centres involved should be stated according to the research permit and field data. The study population consisted of all prospective brides who attended premarital health services during the data collection period. A total of 30 respondents were included using total sampling. The inclusion criteria were prospective brides who attended premarital health services, were willing to participate, were able to read the questionnaire, and provided informed consent. The exclusion criteria were respondents who did not complete the questionnaire or provided incomplete answers for most items.

Data were collected using a structured questionnaire with yes and no response options. The questionnaire consisted of 10 indicators: basic knowledge of anaemia, knowledge of the effects of anaemia on reproductive health and pregnancy, knowledge of anaemia prevention before marriage, previous sources of anaemia information, perceptions of anaemia as a premarital health problem, the need for anaemia education before marriage, perceptions of the use of digital media in health education, feasibility of digital video media as anaemia education media, the need for currently unavailable anaemia education media, and willingness to receive digital video media as part of premarital services. Each indicator consisted of four subitems, resulting in 40 subitems. A "yes" response was scored 1, while a "no" response was scored 0.

The operational definition of need in this study was the level of respondents' acceptance of the importance of anaemia education and the suitability of digital video media as a premarital educational tool, calculated from the proportion of "yes" responses across all questionnaire indicators. The percentage for each indicator was calculated by dividing the number of "yes" responses across all subitems by the total number of subitem responses, then multiplying by 100%. Since each indicator had four subitems and was answered by 30 respondents, the total number of responses for each indicator was 120. The overall percentage was calculated by dividing the total number of "yes"

responses across all 40 subitems by the total number of overall responses, namely 1,200 responses.

The research procedure began with obtaining research permission, coordinating with premarital service officers, explaining the study objectives to prospective respondents, and obtaining participation consent. Respondents then completed the questionnaire independently. After data collection, the researchers checked data completeness, coded responses, tabulated the data, and conducted descriptive analysis. The questionnaire content was reviewed by the research team based on anaemia concepts, premarital health services, and health education media. Statistical reliability testing was not conducted and is acknowledged as a limitation because this study was still at the preliminary needs assessment stage. Data were presented in tables using frequencies and percentages and then described narratively.

RESULTS AND DISCUSSION

Before presenting the needs assessment findings, respondent characteristics were first described to provide context for interpreting the acceptance of digital video-based anaemia education. These characteristics are important because age, educational background, occupation, and income may influence access to health information, preference for educational media, and readiness to receive premarital counselling. The study involved 30 prospective brides who attended premarital health services at public health centres in Bengkalis District during the data collection period. The descriptive profile also helps clarify whether the proposed digital video medium is appropriate for the target audience. Respondents in early reproductive age with varied educational, occupational, and economic backgrounds may require educational materials that are accessible, practical, easy to understand, and reusable beyond face-to-face counselling. Therefore, Table 1 presents the distribution of respondents according to age, education, occupation, and income as the baseline characteristics for this needs assessment study in the premarital service context.

Table 1. Respondent Characteristics

No.	Respondent characteristics	f	%
1	Age		
	20–25 years	27	90.00
	26–30 years	2	6.67
	>30 years	1	3.33
2	Education		
	Senior high school	9	30.00
	Diploma	3	10.00
	Bachelor’s degree	16	53.33
	Master’s degree	2	6.67
3	Occupation		
	Employee	13	43.33
	Entrepreneur	9	30.00
	Health worker	3	10.00
	Unemployed	5	16.67
4	Income		
	IDR 1–3 million	12	40.00
	IDR 3–5 million	8	26.67
	IDR 5–8 million	8	26.67
	IDR 8–10 million	1	3.33
	No income	1	3.33

No.	Respondent characteristics	f	%
Total		30	100.00

Based on Table 1, most respondents were aged 20–25 years, with 27 respondents or 90.00%. Respondents aged 26–30 years accounted for 2 respondents or 6.67%, while those aged over 30 years accounted for 1 respondent or 3.33%. The frequency in the 26–30-year age group was corrected to ensure that the total frequency matched the sample size of 30 respondents. This age composition indicates that most prospective brides were in the early reproductive age group, making premarital anaemia education relevant as part of health preparation before pregnancy.

In terms of education, most respondents had a bachelor's degree, accounting for 16 respondents or 53.33%, followed by senior high school graduates with 9 respondents or 30.00%, diploma graduates with 3 respondents or 10.00%, and master's degree graduates with 2 respondents or 6.67%. This educational profile suggests that most respondents had a medium to high educational background. Such a condition may support the acceptance of digital health education media because respondents are relatively able to read, understand messages, and use information media.

Regarding occupation, most respondents worked as employees, with 13 respondents or 43.33%. Respondents who were entrepreneurs accounted for 9 people or 30.00%, health workers for 3 people or 10.00%, and unemployed respondents for 5 people or 16.67%. These occupational characteristics indicate that respondents had diverse daily activities. Therefore, flexible educational media that can be accessed repeatedly, such as digital video, may help respondents learn health information without depending entirely on lengthy face-to-face sessions.

In terms of income, most respondents earned IDR 1–3 million, accounting for 12 respondents or 40.00%. Respondents with income of IDR 3–5 million and IDR 5–8 million each accounted for 8 respondents or 26.67%. Respondents with income of IDR 8–10 million and those with no income each accounted for 1 respondent or 3.33%. These characteristics indicate the need for educational media that are easy to access, do not require substantial additional costs, and can be used within public health centre services**.**

Table 2. Needs Assessment Results

No.	Needs assessment indicator	Total responses	Yes (n)	Yes (%)	No (n)	No (%)
1	Basic knowledge of anaemia	120	116	96.67	4	3.33
2	Knowledge of the effects of anaemia on reproductive health and pregnancy	120	110	91.67	10	8.33
3	Knowledge of anaemia prevention before marriage	120	111	92.50	9	7.50
4	Previous sources of anaemia information	120	105	87.50	15	12.50
5	Perception of anaemia as a premarital health issue	120	115	95.83	5	4.17
6	Need for anaemia education before marriage	120	113	94.17	7	5.83
7	Perception of digital media use in health education	120	119	99.17	1	0.83
8	Feasibility of digital video media as anaemia education media	120	118	98.33	2	1.67
9	Need for currently unavailable anaemia education media	120	111	92.50	9	7.50

No.	Needs assessment indicator	Total responses	Yes (n)	Yes (%)	No (n)	No (%)
10	Willingness to receive digital video media in premarital services	120	115	95.83	5	4.17
Total		1,200	1,133	94.42	67	5.58

Based on Table 2, the total number of "yes" responses across all indicators was 1,133 out of 1,200 responses, resulting in a percentage of 94.42%. The total number of "no" responses was 67 or 5.58%. The percentage of 94.42% was calculated from all "yes" responses across 40 subitems, not merely from the number of respondents. Therefore, this figure represents the proportion of respondents' acceptance and perceived need for anaemia education and digital video media across all assessed indicators.

The indicator of basic knowledge of anaemia obtained 96.67% "yes" responses. This indicates that most respondents reported knowing the definition of anaemia, risk factors, signs and symptoms, and impacts of anaemia. However, this result does not automatically mean that respondents no longer need education. High basic knowledge can serve as an initial foundation for strengthening further education, especially practical information related to anaemia prevention before pregnancy.

The indicator of knowledge regarding the effects of anaemia on reproductive health and pregnancy obtained 91.67% "yes" responses. This percentage indicates that most respondents understood that anaemia may affect reproductive health, pregnancy, maternal health, and fetal health. Nevertheless, 8.33% of responses were "no", indicating that education is still needed to ensure that all prospective brides understand the relationship between anaemia and pregnancy readiness.

The indicator of anaemia prevention obtained 92.50% "yes" responses. Respondents reported knowing prevention efforts such as haemoglobin examination, iron tablet consumption, nutritious dietary practices, and health education. This finding is important because premarital anaemia prevention requires a combination of knowledge, attitudes, service access, and adherence to preventive actions.

The indicator of previous sources of anaemia information had the lowest percentage of "yes" responses, at 87.50%. All respondents stated that they had received information from health workers, but not all respondents had obtained information through printed media, social media, or digital video media. This finding indicates room for improvement in the variety and availability of educational media. The limited experience of receiving information through digital video media provides one basis for developing anaemia-specific video media for prospective brides.

The indicator of perception of anaemia as a premarital health issue obtained 95.83% "yes" responses. Respondents perceived that anaemia needs attention, prevention, early detection, and specific education. This finding indicates that prospective brides do not view anaemia solely as a pregnancy-related issue but also as a health issue that should be addressed before marriage.

The indicator of the need for anaemia education before marriage obtained 94.17% "yes" responses. Respondents stated that they needed structured, easy-to-understand, attractive, and needs-based education. This finding shows that anaemia education should be designed systematically and not limited to brief information delivery. Educational content should include the definition of anaemia, causes, impacts, haemoglobin examination, iron tablet consumption, dietary practices, and follow-up actions at public health centres.

The indicator of perception of digital media use obtained the highest percentage, at 99.17%. Respondents perceived digital media as accessible, attractive, understandable, and relevant. The feasibility of digital video media also obtained a high percentage, at

98.33%. These results indicate that respondents accepted digital video media as an anaemia education tool. However, this result should be interpreted as acceptance of the media, not evidence of media effectiveness.

The indicator of the need for currently unavailable anaemia education media obtained 92.50% "yes" responses. Respondents expressed the need for anaemia-specific media, digital-based media, video-based media, and premarital education media. The indicator of willingness to receive digital video media within premarital services obtained 95.83%. These findings indicate that digital video media can be considered as part of premarital education services at public health centres in Bengkalis District.

Findings indicate that prospective brides have high acceptance and perceived need for digital video-based anaemia education. However, these findings cannot be used to conclude that digital video media are effective in improving knowledge, attitudes, or anaemia prevention behaviour because this study did not conduct an intervention, pretest-posttest, or effectiveness test.

The study findings showed that the total percentage of "yes" responses in the needs assessment reached 94.42%. This figure indicates high acceptance and perceived need for anaemia education and digital video media in premarital services. This finding is relevant because prospective brides are a preconception group who need health information before entering pregnancy. During the premarital stage, anaemia education can help prospective brides understand anaemia risks, recognise symptoms, undergo haemoglobin examination, improve dietary patterns, and follow iron tablet recommendations when needed. In this context, premarital health education should not only provide information, but also strengthen motivation and practical skills so that prospective brides can make healthier reproductive and nutritional decisions before pregnancy. Evidence from broader health education contexts shows that video-based and audiovisual materials can support knowledge improvement, attitude formation, and service uptake when they are designed clearly and embedded in health service interactions (Hurtado-de-Mendoza et al., 2019; Song et al., 2023; Masiano et al., 2021).

This result should be interpreted carefully. The 94.42% figure is not an effectiveness score for the media but rather the proportion of positive responses to indicators of need, acceptance, and media perception. Therefore, this study provides an initial basis for media development, but it does not prove that digital video can improve respondents' knowledge, attitudes, or behaviour. This limitation of claims is important because the study used a descriptive design rather than an experimental design. The additional literature also supports this cautious interpretation. Although video-based education has been reported to improve knowledge, attitudes, or health service uptake in several health topics, the provided additional sources do not offer direct experimental evidence on anaemia-focused video education specifically among prospective brides or women of childbearing age. Thus, the present findings are better positioned as evidence of perceived need and feasibility, not as evidence of intervention effectiveness (Hurtado-de-Mendoza et al., 2019; Gilbert et al., 2008; O'Reilly et al., 2013; Masiano et al., 2021).

Respondent characteristics showed that most participants were aged 20–25 years. This age range represents the early reproductive period, which is important for preconception interventions. Prospective brides in this age group need to understand that pregnancy readiness does not begin after pregnancy occurs but before marriage. Anaemia that is not prevented may affect maternal health, fetal growth, and the risk of pregnancy complications. Therefore, premarital services can serve as a strategic point for strengthening anaemia education before women enter pregnancy. Video-based media may be relevant for this group because young adults are generally familiar with digital content and may benefit from concise, repeatable, and visually supported messages. However, the content should remain linked to premarital health service goals, including

haemoglobin examination, nutritional counselling, iron supplementation when indicated, and referral when health risks are identified.

Most respondents also had a bachelor's degree. This educational level may facilitate acceptance of digital education media. However, relatively high formal education does not always guarantee complete health literacy. The findings showed that most respondents already had basic knowledge of anaemia but still reported needing structured, attractive, and needs-based education. This finding explains that the need for educational media does not arise solely from lack of knowledge, but also from the need to reinforce messages, standardise information, improve access, and provide clear action guidance. The additional sources support this argument because video-based education can be useful even when the target audience already has prior knowledge. Its value lies in translating information into practical steps, addressing perceived barriers, and increasing motivation through visual, narrative, and culturally appropriate messages (Song et al., 2023; Hurtado-de-Mendoza et al., 2019; McCuistian et al., 2021).

The indicator of previous sources of anaemia information had the lowest percentage, at 87.50%. Although all respondents reported having received information from health workers, not all had received information through printed media, social media, or digital video media. This suggests that information sources still depend heavily on health workers. Such dependence may become a constraint when service time is limited or when the number of clients increases. Digital video media can help health workers deliver basic information consistently, allowing counselling sessions to focus on clarification, discussion, and individual follow-up. In this sense, video should be seen as a supporting medium that can standardise core messages, reduce repetition in routine counselling, and help clients revisit information after leaving the health facility. Similar patterns in broader health education literature suggest that audiovisual education can support health service delivery when used as part of a broader communication and counselling process (Gilbert et al., 2008; O'Reilly et al., 2013; Cacioppo et al., 2021).

The finding regarding the need for digital video media is consistent with the development of health education media. Audiovisual media can combine sound, images, text, and visual flow, making health messages easier to understand. Such media can also be replayed by respondents after services are completed. In the premarital context, prospective brides can use videos to review materials on anaemia, nutritious dietary practices, iron tablets, haemoglobin examination, and warning signs that require consultation with health workers. Video media can also help public health centres deliver the same message to all prospective brides, thereby reducing information variation among providers. Compared with print-only materials, audiovisual formats may be more engaging because they present information through multiple sensory channels and can demonstrate actions more clearly, such as how to choose iron-rich foods, how to take iron tablets properly, and when to seek consultation. However, this advantage should still be tested empirically in the anaemia and premarital service context (Masiano et al., 2021; Song et al., 2023; Hurtado-de-Mendoza et al., 2019).

However, digital video media should not be positioned as the sole educational strategy. Studies on communication, information, and education among prospective brides show that direct communication can improve knowledge about healthy pregnancy preparation (Dewi & Putri, 2025). In addition, preconception screening studies indicate that services for prospective brides include several components, such as physical examinations, laboratory tests, immunisation, nutritional supplementation, health counselling, and psychological services (Yulivantina et al., 2021). This means that educational videos should be integrated into premarital services rather than used as a substitute for examination and counselling. The additional sources strengthen this point. Video-alone interventions may improve awareness, but stronger outcomes are generally

more likely when videos are combined with counselling, navigation, discussion, or follow-up support (Gilbert et al., 2008; O'Reilly et al., 2013; Cacioppo et al., 2021). Therefore, the most appropriate model for this study is not "video replacing counselling", but "video supporting counselling".

The findings should also be interpreted in relation to the literature gap. Anaemia education among adolescent girls and pregnant women has been reported more frequently than anaemia education specifically targeting prospective brides. Among prospective brides, several education activities have been delivered through direct education, leaflets, or community-based approaches. Suriah et al. (2018), for example, reported education on nutritional anaemia and chronic energy deficiency among prospective brides through a community approach in Parepare City. Dewi and Putri (2025) also reported the use of communication, information, education, and leaflets among prospective brides. The limited evidence on digital video media specifically addressing anaemia among prospective brides strengthens the importance of conducting a needs assessment before developing such media. This gap is also consistent with the additional literature, which indicates that although video-based health education has been studied across various health issues, direct evidence on anaemia-specific educational videos for prospective brides remains limited (Hurtado-de-Mendoza et al., 2019; Song et al., 2023; Masiano et al., 2021).

Studies among adolescent girls have shown that educational videos can improve knowledge and attitudes regarding anaemia (Fadhilah et al., 2021; Nikmah et al., 2025). However, prospective brides have different needs from adolescent girls. Adolescent girls need anaemia prevention education in the context of growth, menstruation, and future reproductive readiness, while prospective brides require information that is more closely related to pregnancy preparation, premarital examination, and follow-up health services. Therefore, digital videos for prospective brides should be contextually designed and should not simply reuse materials developed for adolescent girls. The additional sources support the importance of contextual tailoring, particularly because effective video-based health education often depends on audience relevance, cultural fit, clarity of messages, and linkage to available services (Hurtado-de-Mendoza et al., 2019; McCuistian et al., 2021; Masiano et al., 2021).

The high percentage of positive responses regarding digital media use, at 99.17%, indicates that respondents accepted digital media as an educational tool that is accessible, attractive, understandable, and relevant. This finding is important because digital media can be used in public health centre waiting rooms, premarital counselling sessions, online education groups, or links shared with prospective brides. However, accessibility should be adapted to local conditions, including device availability, internet connection, and digital literacy. Public health centres also need to ensure that the video content is brief, uses simple language, presents key messages clearly, and does not create misunderstanding. The design should avoid excessive medical terminology and focus on practical messages, such as why haemoglobin examination matters, what foods support iron intake, how to improve iron absorption, and when to consult health workers.

The feasibility of digital video media obtained 98.33% positive responses. Respondents perceived video as helping understanding, being more attractive, meeting their needs, and being effective as an information delivery medium. In this study, the term "effective" reflects respondents' perceptions of the potential of the media, not the result of an effectiveness test. Therefore, the discussion should use cautious terms such as "perceived as feasible", "accepted", or "potentially useful". A claim that video improves knowledge or attitudes can only be made after an intervention test, such as a pretest-posttest design. This caution is important because additional sources show promising effects of video education in several health contexts, but those findings cannot

automatically be generalised to anaemia education among prospective brides without direct testing (Song et al., 2023; Gilbert et al., 2008; O'Reilly et al., 2013; Masiano et al., 2021).

The need for currently unavailable anaemia education media obtained 92.50% positive responses. This finding indicates that prospective brides need media that specifically discuss anaemia in the premarital context. General anaemia materials may not be sufficient because prospective brides need information that links anaemia with pregnancy readiness, premarital examination, maternal health, and fetal health. Therefore, the video content should include the definition of anaemia, causes, signs and symptoms, impacts on pregnancy, haemoglobin examination, iron tablet consumption, iron-rich foods, ways to increase iron absorption, and when to consult health workers. The content should also provide clear action steps because video-based education is more useful when it helps audiences move from knowing to doing. This is consistent with broader video-based health education evidence showing the importance of actionable messages, service pathways, and counselling support (Cacioppo et al., 2021; McCuistian et al., 2021; Masiano et al., 2021).

Respondents' willingness to receive digital video media in premarital services reached 95.83%. This finding indicates an opportunity to integrate digital video media into the public health centre service flow. The media can be used before counselling sessions to provide basic information. After watching the video, health workers can conduct a brief discussion to ensure respondents' understanding. This approach is important because video alone may not be sufficient to encourage long-term behavioural change. Education combined with counselling, discussion, and service follow-up is more aligned with health promotion needs. The additional literature supports this position because video-based interventions tend to be more meaningful when accompanied by interaction, navigation, or counselling that helps clients interpret information and apply it to their personal health condition (Gilbert et al., 2008; O'Reilly et al., 2013; Cacioppo et al., 2021).

The findings also demonstrate that needs assessment is important before media development. Without needs assessment, developed media may not match the characteristics of the target audience. In this study, respondents were mostly young, had medium to high education, were employed, and had varied income levels. These characteristics indicate that media should be flexible, accessible, low-cost, and appropriate for the public health centre context. Videos that are too long or use overly technical medical terms may reduce audience engagement. In contrast, short videos with practical messages and everyday examples are more likely to be accepted. The additional sources also suggest that audience-centred design and contextual relevance are important in video-based health education, especially when the intervention aims to influence motivation, attitudes, and health-seeking actions (Hurtado-de-Mendoza et al., 2019; Song et al., 2023; McCuistian et al., 2021).

The practical implication of this study is that public health centres in Bengkalis District should consider developing digital video-based anaemia education as a supporting medium for premarital services. This medium may become part of promotive and preventive strategies to prepare prospective brides for healthy pregnancy. However, the media should be developed through systematic stages. Future development may use the ADDIE model or Research and Development approach, starting from needs analysis, script and storyboard design, video development, expert validation, target user testing, revision, and effectiveness testing. Based on the additional literature, the development process should also consider cultural appropriateness, message clarity, counselling integration, and referral pathways so that the media does not merely provide information

but also supports appropriate health action (Hurtado-de-Mendoza et al., 2019; O'Reilly et al., 2013; Masiano et al., 2021).

This study has several limitations. First, the sample consisted of only 30 respondents and was limited to prospective brides who attended services during the data collection period. Second, the questionnaire used yes/no responses, which could not capture the degree of need in detail as Likert scales would. Third, statistical validity and reliability of the questionnaire were not reported, so the findings should be interpreted cautiously. Fourth, this study did not directly test the digital video media. Therefore, the findings should be understood as an initial basis for media development, not as evidence of media effectiveness. This limitation is especially important because the additional sources provide broader support for the use of video in health education, but they do not replace the need for direct evaluation of anaemia education videos among prospective brides (Song et al., 2023; Masiano et al., 2021; Cacioppo et al., 2021).

This study provides an initial contribution by identifying the need for digital video-based anaemia education among prospective brides. The findings strengthen the importance of a preconception approach in anaemia prevention. Digital video media that are based on target users' needs, validated by experts, and integrated with health worker counselling may become a relevant strategy to support premarital services at public health centres in Bengkalis District. Still, the strongest claim that can be made from this study is that the media is needed, accepted, and perceived as feasible. Future studies should test whether the developed video can significantly improve knowledge, attitudes, intention to undergo haemoglobin examination, adherence to iron-related recommendations, and appropriate consultation with health workers. This next step is necessary because the broader evidence on video-based health education suggests potential benefits, but anaemia-specific evidence in the premarital context remains limited (Hurtado-de-Mendoza et al., 2019; Gilbert et al., 2008; O'Reilly et al., 2013; Masiano et al., 2021).

CONCLUSION

The needs assessment results showed high acceptance and perceived need for digital video-based anaemia education among prospective brides attending premarital health services at public health centres in Bengkalis District. The total percentage of "yes" responses reached 94.42%, while "no" responses accounted for 5.58%. These findings indicate that prospective brides need anaemia education that is structured, easy to understand, attractive, needs-based, and supported by digital video media. This study was a preliminary study and did not evaluate the effectiveness of digital video media in improving knowledge, attitudes, or anaemia prevention behaviour. Therefore, the findings may be used as an initial basis for developing premarital educational media, while media effectiveness should be tested in future studies.

RECOMMENDATIONS

Public health centres in Bengkalis District are encouraged to develop digital video-based anaemia education tailored to the needs of prospective brides and the premarital service flow. The video should include the definition of anaemia, causes, signs and symptoms, effects on reproductive health and pregnancy, haemoglobin examination, iron tablet consumption, iron-rich dietary practices, and follow-up health services. Future studies are recommended to use a Research and Development design or the ADDIE model. The development process should involve subject-matter experts, media experts, public health centre workers, and prospective brides as target users. After the media is developed, further research should conduct expert validation, feasibility testing, readability testing, and effectiveness testing using a pretest-posttest or quasi-

experimental design to assess changes in knowledge, attitudes, and anaemia prevention behaviour. Future research is also recommended to use an instrument with a Likert scale so that the level of need can be assessed in greater detail. Instrument validity and reliability should be reported clearly to strengthen the reliability of the findings.

AUTHOR CONTRIBUTIONS

MS contributed to research conceptualisation, data collection, data processing, and preparation of the initial manuscript draft. ARS contributed to supervision, methodological formulation, and strengthening the public health substance of the manuscript. SND contributed to concept validation, data analysis, and academic review. HT contributed to manuscript editing, strengthening the discussion, and aligning the article structure. All authors have read and approved the final version of the manuscript.

REFERENCES

Anam, K., Mulasi, S., & Rohana, S. . (2021). Efektifitas Penggunaan Media Digital dalam Proses Belajar Mengajar. *Genderang Asa: Journal of Primary Education*, *2*(2), 76–87. https://doi.org/10.47766/ga.v2i2.161 .

Cacioppo, C., Egleston, B. L., Fetzer, D., Sands, C. B., Raza, S. A., Malleda, N. R., Wood, E. M., Rittenburg, I., Childs, J. W., Cho, D., Hosford, M., Khair, T. A., Khatri, J., Komarnicky, L., Poretta, T., Rahman, F., Shah, S., Patrick-Miller, L., Domchek, S. M., & Bradbury, A. R. (2021). Randomized study of remote telehealth genetic services versus usual care in oncology practices without genetic counselors. *Cancer Medicine, 10*(13), 4532–4541. https://doi.org/10.1002/cam4.3968

Dewi, A., & Widyanto Putri, H. (2025). Efektifitas Komunikasi Informasi dan Edukasi (KIE) kepada Calon Pengantin Putri terhadap Pengetahuan Persiapan Kehamilan Sehat. *Jurnal Borneo Cendekia, 9*(1), 99-107. doi:10.54411/jbc.v9i1.615.

Dinas Kesehatan Kabupaten Bengkalis. (2025). *Profil Dinas Kesehatan Kabupaten Bengkalis*. Dinas Kesehatan Kabupaten Bengkalis.

Dinas Kesehatan Provinsi Riau. (2023). *Profil Kesehatan Provinsi Riau Tahun 2023*. Dinas Kesehatan Provinsi Riau.

Fadhilah, T. M., Qinthara, F. Z., Pramudiya, F., Nurrohmah, F. S., Nurlaelani, H. P., Maylina, N., & Alfiraizy, N. (2021). Pengaruh media video edukasi terhadap peningkatan pengetahuan anemia pada remaja putri. *Jurnal Pengabdian dan Pemberdayaan Masyarakat, 5*(1), 159–165. https://doi.org/10.30595/jppm.v5i1.9823

Gilbert, P. A., Ciccarone, D., Gansky, S. A., Bangsberg, D. R., Clanon, K., McPhee, S. J., Bogetz, A. L., & Gerbert, B. (2008). Interactive “video doctor” counseling reduces drug and sexual risk behaviors among HIV-positive patients in diverse outpatient settings. *PLOS ONE, 3*(4), e1988. https://doi.org/10.1371/journal.pone.0001988

Hurtado-de-Mendoza, A., Graves, K. D., Gómez-Trillos, S., Carrera, P., Campos, C., Anderson, L., Luta, G., Peshkin, B. N., Schwartz, M. D., Cupertino, A. P., González, N., & Sheppard, V. B. (2019a). Culturally targeted video improves psychosocial outcomes in Latina women at risk of hereditary breast and ovarian cancer. *International Journal of Environmental Research and Public Health, 16*(23), 4793. https://doi.org/10.3390/ijerph16234793

Hurtado-de-Mendoza, A., Graves, K. D., Gómez-Trillos, S., Song, M., Anderson, L., Campos, C., Carrera, P., Ostrove, N., Peshkin, B. N., Schwartz, M. D., Ficca, N., Cupertino, A. P., González, N., Otero, A., Huerta, E., & Sheppard, V. B. (2019b). Developing a culturally targeted video to enhance the use of genetic counseling in Latina women at increased risk for hereditary breast and ovarian cancer. *Journal of Community Genetics, 11*(1), 85–99. https://doi.org/10.1007/s12687-019-00423-w

Kementerian Kesehatan Republik Indonesia. (2020). *Kesehatan reproduksi bagi calon pengantin*. Direktorat Jenderal Kesehatan Masyarakat, Direktorat Kesehatan Keluarga.

Kementerian Kesehatan Republik Indonesia. (2021). *Buku pedoman penatalaksanaan pemberian tablet tambah darah*. Kementerian Kesehatan Republik Indonesia.

Masiano, S., Machine, E., Mphande, M., Markham, C., Tembo, T., Chitani, M., Mkandawire, A., Mazenga, A., Ahmed, S., & Kim, M. (2021). Video-based intervention for improving maternal retention and adherence to HIV treatment: Patient perspectives and experiences. *International Journal of Environmental Research and Public Health, 18*(4), 1737. https://doi.org/10.3390/ijerph18041737

McCuistian, C., Wootton, A. R., Legnitto-Packard, D., Gruber, V. A., Dawson-Rose, C., Johnson, M. O., & Saberi, P. (2021). Addressing HIV care, mental health and substance use among youth and young adults in the Bay Area: Description of an intervention to improve information, motivation and behavioural skills. *BMJ Open, 11*(4), e042713. https://doi.org/10.1136/bmjopen-2020-042713

Minasi, A., Nurhalimah, I., Imas, N., Gresica, S., & Candra, Y. (2021). Faktor yang memengaruhi kejadian anemia pada ibu hamil. *Open Access Jakarta Journal of Health Sciences*, 57–63. https://doi.org/10.53801/oajjhs.v1i3.21

Nikmah, N., Wulandari, R. C. L., & Arisanti, A. Z. (2025). Pengaruh Edukasi Kesehatan Berbasis Video Terhadap Pengetahuan Dan Sikap Pencegahan Anemia Pada Remaja Putri Di SMK Cut Nya' Dien Semarang. *Innovative: Journal Of Social Science Research*, *5*(3), 4673–4682. https://doi.org/10.31004/innovative.v5i3.19564 .

O'Reilly, K., Kennedy, C. E., Fonner, V. A., & Sweat, M. (2013). Family planning counseling for women living with HIV: A systematic review of the evidence of effectiveness on contraceptive uptake and pregnancy incidence, 1990 to 2011. *BMC Public Health, 13*, 935. https://doi.org/10.1186/1471-2458-13-935

Song, X., Anderson, T., Lin, T., & Fang, B. Y. (2023). The effects of a multimedia intervention on help-seeking process with a Chinese college student sample. *Journal of Clinical Psychology, 80*(3), 522–536. https://doi.org/10.1002/jclp.23629

Suriah, S., Citrakesumasari, C., Awaluddin, A., & Yani, A. (2018). EDUKASI BAGI CALON PENGANTIN TENTANG ANEMIA GIZI DAN KURANG ENERGI KRONIK DI KOTA PAREPARE. *Media Publikasi Promosi Kesehatan Indonesia (MPPKI)*, *1*(1), 25-31. https://doi.org/10.56338/mppki.v1i1.133 .

World Health Organization. (2014). *Global nutrition targets 2025: Anaemia policy brief*. World Health Organization.

World Health Organization. (2016). *Guideline: Daily iron supplementation in adult women and adolescent girls*. World Health Organization.

Yulivantina, E. V., Mufdlilah, M., & Kurniawati, H. F. (2021). Pelaksanaan skrining prakonsepsi pada calon pengantin perempuan. *Jurnal Kesehatan Reproduksi, 8*(1). https://doi.org/10.22146/jkr.55481