



The Role of Health Education in Shaping Perceptions of Tetanus Toxoid Immunization Among Prospective Brides' and Grooms: A Scoping Review

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Abstract

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Maternal and neonatal tetanus remains a significant public health issue, particularly in areas with limited healthcare access. Tetanus Toxoid (TT) immunization plays a vital role in preventing this condition, but vaccination coverage among prospective brides' remains low in many regions. This scoping review aims to examine the relationship between health education and the perceptions of prospective brides' regarding Tetanus Toxoid (TT) immunization. Using the PRISMA-ScR framework, literature searches were conducted in PubMed, ScienceDirect, and Scopus, yielding 896 records, of which 10 studies met the inclusion criteria. Thematic synthesis identified three main themes: the role of health education in improving knowledge, the influence of perceptions on vaccination intentions, and the gap between knowledge and immunization compliance. Educational interventions, including counseling, booklets, and digital media, consistently improved knowledge and attitudes, which are key components in shaping perception. These interventions represent the application of educational technology and instructional media, where structured information delivery through interpersonal and technology-based approaches functions as performance technology to facilitate behavior change. Among digital approaches, evidence from the included studies indicates that e-booklet-based education was the most effective, enhancing knowledge and attitudes through flexible access, repeated exposure, and engaging content. However, improved perceptions do not always translate into completion of TT doses due to barriers such as service limitations, administrative issues, and socio-cultural factors. These findings highlight the need to integrate educational technology-based interventions with supportive health system strategies to improve TT immunization uptake among prospective brides.

Keywords:

Health education; Tetanus Toxoid; premarital care; vaccine perception

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INTRODUCTION

Maternal and neonatal tetanus remains a global health problem, particularly in low-income countries where fatality rates among mothers and newborns are high (Jones et al., 2024). Immunization with Tetanus Toxoid–Containing Vaccines (TTCV) has been proven to be the most effective preventive strategy and has significantly contributed to reducing neonatal tetanus through the Maternal and Neonatal Tetanus Elimination (MNTE) program (WHO, 2019).

Many countries have achieved elimination validation, yet TTCV coverage among women remains uneven. Globally, the MNTE initiative has made substantial progress. As of December 2022, 47 of 59 priority countries ($\approx 80\%$) had been validated as having achieved elimination (Unicef, 2021). However, despite this progress, the proportion of countries achieving at least two TTCV doses in pregnant women remains low; among 50 reporting countries, only 16 (32%) reached $\geq 80\%$ coverage in 2022 (Jones et al., 2024). These figures indicate that most priority countries have not yet achieved the recommended TTCV coverage needed to support maternal and neonatal tetanus elimination. Although global coverage has increased for example, protection at birth rose from 74% in 2000 to 86% in 2022 millions of women of reproductive age still do not receive adequate immunization (Jones et al., 2024).

This gap is particularly evident in regions with limited health service access and restricted health education. An MNTE sustainability assessment in 28 countries showed that only 16% reached $\geq 80\%$ coverage for at least two TTCV doses, even though 85% had achieved $\geq 80\%$ protection at birth (Yusuf et al., 2022). This highlights that elimination achievements do not fully reflect equitable protection among women of reproductive age, leaving room for potential tetanus re-emergence.

Receiving at least two doses of TTCV before or during pregnancy is crucial, yet studies show that premarital educational interventions such as counseling, booklets, e-booklets, and other materials tend to focus more on improving knowledge and attitudes rather than ensuring immunization compliance or completion of TT doses (Puspitaningrum & Rahfiludin, 2022). Most studies emphasize “knowledge” or “attitude” as primary outcomes, while evidence regarding their impact on compliance, including completion of TT doses remains limited (Mellany, 2025; Nofianti et al., 2025; Yolandia & Febriyani, 2024). This gap highlights the need for research that specifically explores the relationship between education, perception, and immunization decision-making.

The urgency of this research is not only linked to the goal of eliminating maternal and neonatal tetanus, but also to the broader need to strengthen premarital programs so that pregnancy can occur under optimal protection against neonatal tetanus and related mortality (Naha et al., 2025). Nonetheless, several countries continue to report gaps in pre-pregnancy and premarital vaccination coverage, driven by limited access, low perceived risk, and insufficient reliable information (Faria et al., 2021; Johns et al., 2023).

In Indonesia, this issue is highly relevant. Tetanus Toxoid immunization (TT) is an essential component of premarital services provided in health facilities and at the Office of Religious Affairs (KUA) (Ikhwan et al., 2024). Although

national programs continue to strive for improved maternal immunization coverage, recent health reports indicate regional disparities and inconsistencies in service implementation. Several prospective brides' still experience limited understanding of the purpose of TT immunization, misconceptions about vaccine safety, and access challenges during the marriage administration process (Kemenkes, 2023).

Previous literature reviews have consistently highlighted the role of health education in improving knowledge and attitudes toward TT immunization, as well as identifying key determinants such as access and socio-cultural factors. However, these reviews primarily focus on general outcomes and rarely examine how educational methods are designed and delivered in shaping individuals' perceptions. In particular, the role of instructional media and educational technology in influencing perception remains underexplored. Therefore, this scoping review offers a novel contribution by examining various educational approaches including counseling, printed materials, and digital media from an educational technology perspective to better understand their influence on prospective brides' perceptions of TT immunization.

Furthermore, the persistent gap between knowledge improvement and immunization compliance indicates that conventional education alone may be insufficient to change behavior. From an instructional technology perspective, this underscores the need for more innovative message design, interactive strategies, and technology-based learning media that are not only informative but also persuasive and capable of shaping perception and decision-making.

These considerations provide a strong rationale for this study. Evidence confirms the protective effect of Tetanus Toxoid (TT) immunization against neonatal tetanus, and premarital TT programs have long been implemented in Indonesia. Although health education interventions have been shown to improve knowledge and attitudes toward TT immunization, evidence regarding their influence on prospective brides' perceptions and immunization compliance remains limited. This study therefore aims to examine the influence of health education on prospective brides' perceptions of Tetanus Toxoid immunization.

METHODS

This study employed a scoping review method, consisting of a series of systematic steps to collect, select, and synthesize literature relevant to the research focus (Pool et al., 2024). The initial stage involved formulating a clearly defined research topic and establishing specific inclusion and exclusion criteria to guide the literature search process.

The literature search was conducted comprehensively across multiple academic databases, published articles, and relevant scientific sources. Once the literature was compiled, a rigorous selection process was carried out based on the predetermined criteria. The selected studies were then extracted and qualitatively analyzed to identify key themes, patterns, and relationships among emerging concepts. Through this analytical process, existing research findings were integrated to provide a comprehensive response to the research question.

The research question was formulated using the Population, Exposure, and Outcome (PEO) framework, as presented in Table 1 (Alan Davies, 2024) : *How does health education influence the perceptions of prospective brides' and grooms regarding Tetanus Toxoid immunization?*

Table 1. Selection of the PEO Mnemonic

Population	Exposure	Outcome
reproductive-age women	immunization of tetanus toxoid	Changes in prospective couples' perceptions regarding Tetanus Toxoid immunization

Source: (Nurfiriyani et al., 2025)

The authors established the scope of the study by defining inclusion and exclusion criteria to guide the literature review process (Table 2). These criteria were set to ensure that the review remained focused and aligned with the objectives of the research. The keywords used in the literature search included: *Health education; Tetanus Toxoid; premarital care; vaccine perception.*

Table 2. Inclusion and Exclusion Criteria

Category	Inclusion Criteria	Rationale
Inclusion Criteria	Research articles published between 2017 and 2025	Ensuring that the literature review encompasses the most recent findings (2017–2025) related to health education and prospective couples' perceptions of TT immunization.
	Articles written in Indonesian and English	Reflecting the primary language understood by researchers and the relevant academic community.
	Articles available in full text	Required for comprehensive evaluation of the study's methodology, content, and findings
Exclusion Criteria	Books, blogs	These sources lack peer review, reducing their reliability and scientific validity
	Full-text access requiring payment	Ensures open access to all reviewed materials, supporting transparency and reproducibility in the scoping review process.

Source: (Aprianti et al., 2025)

The authors conducted a literature review using various academic search engines based on the predetermined keywords. A total of 896 articles were identified, comprising 560 articles from PubMed, 256 from ScienceDirect, and 80 from Scopus. The scoping review was developed in accordance with PRISMA guidelines, and a PRISMA flow diagram was included to illustrate the number of records identified, the screening process, studies that met the inclusion criteria, and the final selection of literature for comprehensive review (Figure 1).

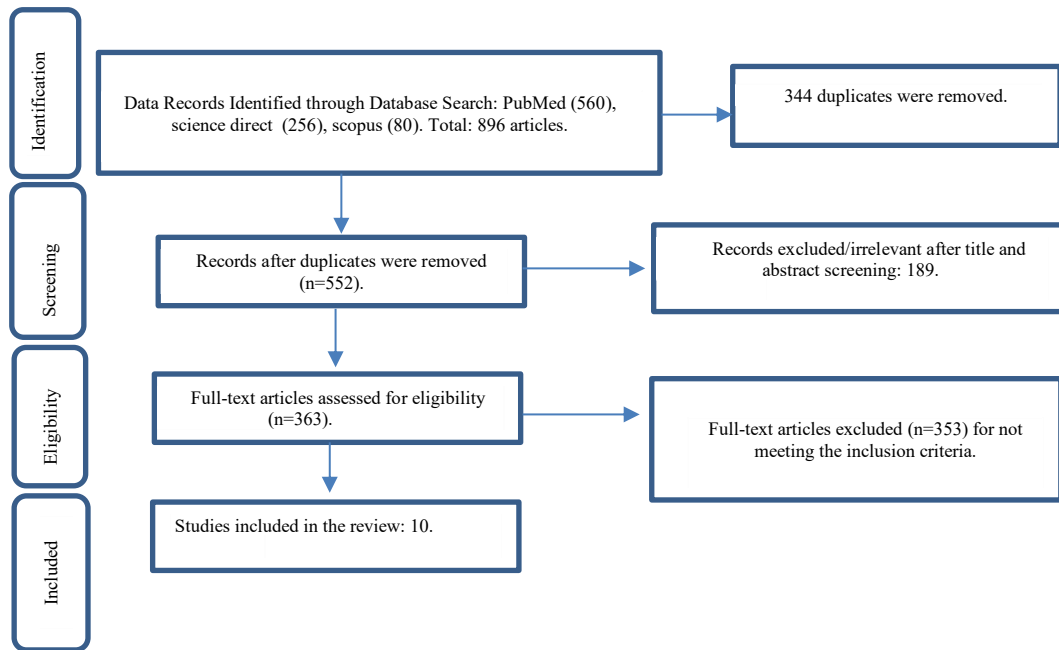


Figure 1. PRISMA Flow Diagram

RESULTS

The data synthesis in this study involved compiling and summarizing the publications that met the inclusion criteria into a structured table. The table presents information on the authors, titles, findings, study designs, objectives, sample sizes, and results of the 10 articles analyzed.

Table 1. Data Extraction

No	Author(s) / Year	Title	Educational Method	Objective	Sample Size	Conclusion
1	(Shafiq et al., 2017)	Knowledge, attitudes and practices related to tetanus toxoid vaccination in women of childbearing age: A cross-sectional study in peri-urban settlements of Karachi, Pakistan	Community-based health education / information dissemination	To assess the knowledge, attitudes, and practices (KAP) concerning tetanus toxoid (TT) vaccination among women of reproductive age, and to estimate TT vaccine coverage based on administered doses (TTV-1 to TTV-5)	450 women of reproductive age (married pregnant, married non-pregnant, and unmarried)	TT vaccine coverage remains low (43%), particularly among unmarried women, 97% of whom are unvaccinated. Non-compliance is influenced by limited knowledge, lack of awareness regarding free vaccination services, large family structures, insufficient support, and the dominance of family members in health-related decision-making. Community-based education, empowerment of women, and improved dissemination of information on free immunization services are urgently needed
2	(Sunarsih et al., 2022)	Tetanus Toxoid (TT)	Counseling (pretest-	To provide education to	3 couples of prospective	A 60% increase in knowledge was observed following the educational intervention. The

		<i>Immunization Education for Prospective Brides' and Grooms</i>	posttest)	prospective brides' and grooms regarding TT immunization and to enhance their knowledge of its benefits, recommended schedule, and the potential consequences of not receiving TT immunization.	brides' and grooms within the working area of Pakuan Ratu Public Health Center	education proved effective in enhancing prospective brides' understanding of the importance of TT immunization as a preventive measure against neonatal tetanus and as part of healthy reproductive preparation.
3	(Yolandia & Febriyani, 2024)	<i>The Influence of Tetanus Toxoid Immunization Counseling on the Knowledge of Prospective Brides' and Grooms at KUA Beji in 2023</i>	Counseling using booklet	To evaluate the effect of Tetanus Toxoid (TT) immunization counseling using a booklet as the educational medium on the knowledge level of prospective brides' and grooms at the Beji Office of Religious Affairs (KUA) in 2023	20 prospective bride-groom couples	Before the booklet-based counseling, 60% of respondents demonstrated good knowledge and 35% had poor knowledge. Following the counseling session, the proportion with good knowledge increased to 90%. The T-test analysis showed $p = 0.001 < 0.05$, indicating a statistically significant difference. The mean knowledge score increased from 80.25 to 88.90, reflecting an improvement of 8.65 points
4	(Mellany, 2025)	<i>The Influence of Tetanus Toxoid Immunization E-Booklet Education on the Knowledge and Attitudes of Prospective Brides' and Grooms at the Gerunggang District Religious Affairs Office (RAO) in 2025</i>	E-booklet (digital education)	To evaluate the effect of education delivered through an e-booklet on improving the knowledge and attitudes of prospective brides' and grooms regarding Tetanus Toxoid immunization	56 prospective brides' and grooms	The findings indicate a significant improvement in the knowledge and attitudes of prospective brides' and grooms after receiving e-booklet-based education on TT immunization, with a p-value of $0.000 < 0.05$. The e-booklet intervention was proven to effectively enhance the knowledge and attitudes of prospective couples at the Gerunggang Religious Affairs Office (RAO).
5	(Rifda Neni, 2023)	<i>The Relationship Between Knowledge and Attitudes of Prospective Brides' and Grooms and the</i>	Health education (knowledge & attitude exposure)	To determine the association between the knowledge and attitudes of prospective brides' and grooms and the	31 respondents (prospective brides' and grooms)	The findings indicate a significant association between knowledge and the uptake of TT immunization, categorized as a moderate relationship. A significant association was also observed between attitudes and TT

		<i>Uptake of Tetanus Toxoid (TT) Immunization.</i>		uptake of Tetanus Toxoid (TT) immunization in the working area of the Padang Serai Public Health Center		immunization uptake, likewise within the moderate category. In conclusion, both knowledge and attitudes are significantly related to TT immunization among prospective brides' and grooms in the operational area of Padang Serai Public Health Center
6	(Lailani Giopani et al., 2023)	<i>Motivation of Prospective Brides' in Receiving Tetanus Toxoid (TT) Immunization in the Working Area of Cempaka Putih Public Health Center, Banjarmasin.</i>	Motivational health education	Motivation of Prospective Brides' to Receive Tetanus Toxoid (TT) Immunization in the Working Area of Cempaka Putih Public Health Center, Banjarmasin	30 female prospective brides'	The study findings indicate that the motivation of prospective brides' to receive TT immunization falls within the 'strong' category, encouraging them to engage in health-promoting actions. Thus, prospective brides' in the Cempaka Putih Public Health Center area demonstrate a high level of motivation to undergo Tetanus Toxoid immunization
7	(Ikhwan et al., 2024)	<i>Compliance of Prospective Brides' and Grooms in Obtaining Tetanus Toxoid (TT) Immunization as an Administrative Requirement for Marriage</i>	Counseling / health communication	To describe the implementation of premarital health screening and the mandatory Tetanus Toxoid (TT) immunization requirement for prospective brides' as an administrative prerequisite for marriage at the Timpeh District Religious Affairs Office (RAO), as well as to identify the challenges encountered during its execution.	Primary data were obtained through interviews.	Premarital health examinations, including Tetanus Toxoid (TT) immunization for women of reproductive age, constitute an essential measure to prevent tetanus in mothers and newborns. This immunization can be administered when a woman is registered as a prospective bride. However, many prospective brides' decline TT immunization due to personal reasons, health-related concerns, beliefs, or perceptions toward vaccination. The absence of specific regulations or sanctions further contributes to non-compliance among some prospective brides'
8	(Kurniawati & Martina, 2022)	<i>Analysis of Knowledge and Attitudes of Prospective Brides' and Grooms Regarding</i>	Education via online information exposure	The study aimed to analyze the knowledge and attitudes of prospective brides' and grooms regarding	53 respondents participated	The findings indicate that only 37.7% of prospective brides' and grooms possessed adequate knowledge of TT immunization, while 71.7% expressed non-supportive attitudes and 39.6% had not

		<i>Tetanus Toxoid Immunization at the Office of Religious Affairs, Ujungberung District</i>		Tetanus Toxoid (TT) immunization at the Religious Affairs Office (RAO) in Ujungberung District		received the immunization. Going forward, collaboration between the RAO and community health centers is recommended to strengthen outreach efforts and improve awareness of the importance of TT immunization among prospective brides' and grooms
9	(Mahduroh, 2023)	<i>The Relationship Between the Role of Health Workers, Knowledge, and Motivation and the Implementation of Tetanus Toxoid (TT) Immunization Among Prospective Brides' in the Pulo Ampel Community Health Center Working Area in 2022</i>	Health education & health worker support	To examine the association between knowledge, motivation, and the role of health workers with the implementation of Tetanus Toxoid (TT) immunization among prospective brides' in the Pulo Ampel Community Health Center working area in 2022	32 prospective brides'	Among the 32 prospective brides', 53.1% had not received TT immunization. A total of 56.2% demonstrated good knowledge, 59.4% had low motivation, and 59.4% reported active involvement of health workers. Significant associations were identified between motivation and the implementation of TT immunization, as well as between the role of health workers and immunization uptake. However, knowledge showed no significant correlation. These findings highlight that motivation and health worker support play a crucial role in increasing TT immunization among prospective brides'.
10	(Anatea et al., 2018)	<i>Determinants and perceptions of the utilization of tetanus toxoid immunization among reproductive-age women in Dukem Town, Eastern Ethiopia: a community-based cross-sectional study</i>	Media-based health education	This study analyzed the level of utilization of TT immunization and its determining factors, as well as the perceptions of women of reproductive age regarding TT immunization in Dukem Town, Eastern Ethiopia	422 women	The utilization of TT immunization was found to be low. Significant influencing factors included maternal education, media exposure, antenatal care attendance, knowledge of the vaccination schedule, distance to health facilities, and place of delivery.

Source: (Aprianti et al., 2025)

DISCUSSION

The search process and alignment with the study keywords resulted in ten eligible articles. The reviewed studies were conducted in several countries,

including Ethiopia, Pakistan, and Indonesia. Table 4 presents the countries represented in the selected articles. The thematic analysis summarized in Table 5 focuses on an in-depth understanding of health education and the perceptions of prospective brides' regarding tetanus toxoid immunization.

Table 4. Distribution of Countries Represented in the Articles

No	Countries	Frequency
1	Ethiopia	1
2	Pakistan	1
3	Indonesia	8

Source: (Nurfitriyani et al., 2024) ~~Author's Discussion, 2025~~

Thematic analysis was conducted through a stepwise process, including data extraction, open coding, categorization, and theme development. Recurring concepts related to knowledge, perception, and immunization compliance were identified and grouped into broader categories. These categories were iteratively reviewed and refined to ensure consistency across studies, resulting in three dominant themes: (1) The Role of Health Education in Enhancing Prospective Couples' Understanding of TT Immunization, (2) Prospective Couples' Perceptions of TT Immunization, and (3) Gaps Between Knowledge and Compliance with TT Immunization

Table 5. Thematic Analysis

No	Theme	Key Points
1	The Role of Health Education in Enhancing Prospective Couples' Understanding of TT Immunization	a. Types of educational approaches utilized b. Impact of education on knowledge and attitudes
2	Prospective Couples' Perceptions of TT Immunization	a. Social and cultural factors shaping perceptions b. Influence of perceptions on vaccination intentions
3	Gaps Between Knowledge and Compliance with TT Immunization	a. The role of healthcare providers b. Challenges in implementing premarital TT immunization

Source: (Aprianti et al., 2025)

The Role of Health Education in Improving Prospective Brides' Understanding of TT Immunization

a. Forms of Education Used

Health education plays an essential role in enhancing prospective brides' knowledge regarding the importance of tetanus toxoid (TT) immunization before marriage. As part of premarital reproductive health programs, educational efforts clarify that TT immunization is not merely an administrative requirement but a preventive measure that protects both mother and newborn from tetanus, particularly neonatal tetanus. Such education helps prospective brides' recognize the long-term benefits of immunization, including the prevention of severe infections during pregnancy and childbirth (Hardi Yanti Cahyati et al., 2023).

Various forms of education are used depending on the needs and setting, including face-to-face counseling sessions and written media such as booklets or e-booklets. For example, a 2025 study conducted in Gerunggang District demonstrated that providing e-booklet-based education on TT immunization

significantly improved prospective brides' knowledge and attitudes toward receiving the vaccine (Mellany, 2025). Similarly, premarital education activities using a pretest–material delivery–posttest approach were shown to increase participants' understanding considerably (Sunarsih et al., 2022).

Health education also supports the development of positive attitudes and adherence to TT immunization among prospective brides'. Evidence indicates that factors such as adequate knowledge and support from healthcare providers strongly influence the decision to receive TT immunization (Nisa et al., 2024). Through well-structured educational approaches, including clear and informative counseling, prospective brides' are more likely to understand the recommended doses, timing, and benefits of TT immunization, thereby encouraging its adoption as part of healthy premarital preparation (Yolandia & Febriyani, 2024).

b. Effects of Education on Knowledge and Attitudes

Health education has been consistently shown to improve prospective brides' knowledge of TT immunization. For example, a 2025 study conducted at the Office of Religious Affairs (KUA) in Gerunggang District reported that providing e-booklet–based education resulted in a significant increase in participants' knowledge scores, with pretest–posttest comparisons demonstrating statistically meaningful gains ($p < 0.05$) (Mellany, 2025). Similarly, premarital education initiatives in the Pakuan Ratu Health Center area documented a 60% improvement in knowledge scores following the educational intervention (Sunarsih et al., 2022).

Beyond knowledge, health education also influences attitudes by shifting prospective brides' perspectives from limited awareness or low concern to a more positive stance toward TT immunization. Significant improvements in attitudes were observed following e-booklet education, indicating that educational interventions not only provide information but also foster acceptance and readiness to undergo TT vaccination. Furthermore, other studies highlight a significant relationship between adequate knowledge, positive attitudes, and actual TT immunization uptake, suggesting that individuals who possess sufficient information and supportive attitudes are more likely to complete the recommended TT doses (Mellany, 2025).

Prospective Brides' Perceptions of Tetanus Toxoid Immunization

a. Social and Cultural Factors Shaping Perceptions

One of the key social factors is the influence of family and partners, including spousal support and recommendations from extended family members, which strongly shape prospective brides' attitudes toward TT immunization. Social norms within the community, such as customary practices, guidance from religious leaders, or locally accepted expectations, can either reinforce or hinder vaccine acceptance. When the surrounding environment is supportive, prospective brides' are more likely to comply with immunization recommendations. In contrast, widespread doubts or circulating myths within social networks tend to reduce uptake. Field studies have demonstrated a strong association between family support, social relationships,

and the utilization of TT services across various communities (Anatea et al., 2018).

Cultural factors include traditional beliefs, religious perspectives on vaccination, and norms related to reproductive health and gender roles. In some communities, the belief that health conditions should be addressed through traditional practices or concerns about perceived side effects that are considered inconsistent with cultural values can reduce acceptance of TT immunization. Differences in information access and the consistency of premarital counseling across health facilities also reflect local service cultures; structured and communicative counseling has been shown to strengthen positive perceptions of TT. Numerous studies and premarital program reports in Indonesia highlight that cultural influences and the quality of counseling play a substantial role in shaping prospective brides' perceptions (Sri Achadi Nugraheni et al., 2023).

b. Influence of Perceptions on Vaccination Intent

Prospective brides' perceptions play an important role in shaping their intention to receive the Tetanus Toxoid vaccine. Studies show that positive understanding of the benefits of vaccination can increase readiness to be immunized, whereas concerns about side effects or the belief that vaccination is unnecessary tend to reduce vaccination intentions. Research conducted in Nigeria found that although most respondents understood the purpose of tetanus immunization, only 23.6% completed the recommended doses, and negative perceptions were identified as a major barrier to uptake. These findings indicate that perception is not merely related to knowledge but represents a psychological factor that directly influences an individual's decision to be vaccinated (Awosan & Hassan, 2018).

The importance of perception becomes more evident when premarital educational interventions successfully reshape prospective brides' views about TT immunization. Effective education does not only increase knowledge but also fosters more positive perceptions, thereby strengthening the intention to be vaccinated. Rahmawati and Yolandia (2023) reported that premarital counseling significantly improved prospective brides' understanding of TT benefits and encouraged greater willingness to receive immunization. However, the study also emphasized that improved perceptions do not always translate immediately into action, as social influences such as family opinions or concerns about side effects may still hinder the actual intention to be vaccinated. This highlights that perception functions as an important bridge between education and behavior, although this bridge may weaken without supportive social environments (Yolandia & Febriyani, 2024).

The relationship between perception and vaccination intention is also evident in the implementation of premarital TT immunization programs in Indonesia. Although TT immunization is part of premarital health services, some prospective brides' remain hesitant because they perceive the vaccine as unnecessary or believe it is only important for pregnant women. Ikhwan et al. (2024) reported that such perceptions lead some prospective brides' to decline immunization even after receiving information from health providers. This

situation demonstrates that the success of TT immunization programs depends not only on service availability but also on the effectiveness of educational interventions in shaping convincing perceptions and reducing uncertainty. Strengthening communication strategies that are more persuasive, empathetic, and responsive to the needs of prospective brides' is therefore essential to ensure that positive perceptions translate into genuine intentions and vaccination behavior (Ikhwan et al., 2024).

The Gap Between Knowledge and Immunization Compliance

a. The Role of Health Workers

The role of health workers is central in determining whether the knowledge acquired by prospective brides' can be translated into actual vaccination behavior. Beyond conveying factual information, health workers are expected to explain the benefits, schedule, and safety of the vaccine in a persuasive manner so that information does not remain merely cognitive, but becomes a compelling reason to act. UNICEF guidance highlights the importance of interpersonal communication skills among frontline providers as a key component in building trust and increasing demand for immunization, including the ability to address concerns and counter misinformation with empathy (Unicef, 2022).

High-quality counseling has been shown to strengthen vaccination intentions, particularly when health workers tailor the delivery of information to the specific needs of service recipients. The World Health Organization (2019) reports that structured educational approaches, accompanied by clear explanations and opportunities for direct questioning, can enhance vaccine acceptance across various immunization programs. Experiences from several countries indicate that strengthening the capacity of health workers to provide effective counseling not only improves understanding but also influences final decisions to receive vaccines (Ogliastro et al., 2024).

Reducing the gap between knowledge and immunization compliance requires system support that enables health workers to perform their roles effectively. Evidence-based communication training, accessible service guidelines, and structured immunization reminder systems are among the elements recommended by the European Centre for Disease Prevention and Control to improve vaccination program outcomes. Such approaches allow health workers to provide comprehensive support, ensure that information is communicated clearly, and assist prospective vaccine recipients in making more confident vaccination decisions (Ecdc, 2025).

b. Challenges in Implementing Premarital TT Immunization

The implementation of premarital TT immunization faces several service-level challenges that affect the likelihood of prospective brides' receiving the vaccine. Uneven vaccine availability, service hours that are not convenient for individuals who work, and the distance and transportation costs required to reach facilities reduce attendance at scheduled immunization visits. Research by Fajriani et al. (2024) shows that prospective brides' with limited access to health services are less likely to complete the recommended

immunization series, even when they understand its benefits. This indicates that knowledge alone is insufficient without accessible immunization services (Fajriani et al., 2024).

The referral flow between the Office of Religious Affairs and primary health centers is often unclear, verification of immunization evidence varies across regions, and technical policies for premarital TT implementation remain inconsistent, resulting in considerable variation in how the program is executed. These conditions create administrative requirements that do not always align with actual service availability in the community (Ikhwan et al., 2024).

Limitations in staffing, high workloads, and insufficient communication training also reduce the quality of counseling provided, while social determinants such as family support, local norms, and distrust in vaccines may heighten resistance despite increased knowledge. Therefore, interventions need to combine the strengthening of service capacity with approaches that address socio-cultural barriers (Pramana et al., 2024).

Overall, the findings show that health education plays a key role in shaping prospective brides' perceptions of Tetanus Toxoid (TT) immunization by improving knowledge and fostering positive attitudes. However, these improvements do not always lead to full immunization compliance due to social and structural barriers. Therefore, these findings support the study objective, confirming that health education significantly influences perceptions, while highlighting the need for integrated strategies to improve immunization uptake.

CONCLUSION

This scoping review indicates that health education plays a crucial role in influencing the perceptions of prospective brides' and grooms regarding Tetanus Toxoid (TT) immunization, as reflected in the consistent improvement of knowledge and attitudes across the reviewed studies. Educational interventions delivered through counseling, booklets, e-booklets, and community outreach effectively enhance understanding and foster positive attitudes, which are essential in shaping perception. However, improved perceptions do not always translate into vaccination adherence, as decisions are also influenced by socio-cultural factors, motivation, family support, and the quality of health worker communication. Therefore, strengthening premarital education programs to be more culturally sensitive and communicative, enhancing collaboration between religious affairs offices and health facilities, and improving the interpersonal communication capacity of health workers are necessary to optimize immunization uptake. Future research is recommended to further examine the relationship between perception and actual immunization behavior in order to develop more effective educational strategies.

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