

**Alifmatika: Jurnal Pendidikan dan Pembelajaran Matematika**

Volume 8, Issue 1, 38-60, June 2026

e-ISSN: 2715-6109 | p-ISSN: 2715-6095

<https://journal.ibrahimy.ac.id/index.php/Alifmatika>

## Integration of mathematics with Fiqh An-Nisa' based on Islamic law and state law

**Afda Adin Fauzaydillah<sup>1</sup>, Mohammad Tohir<sup>2\*</sup>, Muhasshanah Muhasshanah<sup>3</sup>**<sup>1</sup>Mathematics Education Study Program Students, Universitas Ibrahimi, Situbondo, East Java 68374, Indonesia<sup>2</sup>Mathematics Education, Universitas Ibrahimi, Situbondo, East Java 68374, Indonesia<sup>3</sup>Information Technology, Universitas Ibrahimi, Situbondo, East Java 68374, Indonesia<sup>1</sup>[tadris.mtk.ibrahimy@gmail.com](mailto:tadris.mtk.ibrahimy@gmail.com), <sup>2\*</sup>[matematohir@ibrahimy.ac.id](mailto:matematohir@ibrahimy.ac.id), <sup>3</sup>[muhasshanah@ibrahimy.ac.id](mailto:muhasshanah@ibrahimy.ac.id)

Received: December 31, 2025 | Revised: May 15, 2026 | Accepted: May 27, 2026 | Published: June 15, 2026

\*Corresponding author

**Abstract:**

This study aims to describe the integration between mathematics and An-Nisa' Fiqh, especially regarding menstruation and postpartum bleeding for women, based on the perspective of Islamic law and state law. Fiqh An-Nisa' discusses special laws for women, such as menstruation, postpartum bleeding, and Istihadhah, which have direct implications for prayer, fasting, and the implementation of state law. State law also provides regulations on inheritance distribution and women's rights, which can influence the implementation of An-Nisa' Fiqh. Meanwhile, mathematics provides arithmetic, analytical, and logical skills that can facilitate understanding of the law. The research method employs a qualitative analytical approach, incorporating literature studies from Fiqh books, mathematics books, Islamic law references, and state law. The study results indicate that (1) aspects of arithmetic, number lines, mathematical logic, and simple statistics can be applied in calculating the duration of menstruation/postpartum, determining the obligation to make up fasting, and visualizing the menstrual cycle. This integration not only improves religious understanding, but also fosters students' numerical and critical thinking skills; (2) there is potential to integrate mathematics in the application of An-Nisa' Fiqh to achieve more objective justice, both from the perspective of Islamic law and state law; and (3) The integration of mathematics and An-Nisa' Fiqh is relevant to support the madrasah curriculum in Islamic boarding schools that emphasize the development of religious knowledge as well as general knowledge.

**Keywords:** Fiqh An-Nisa'; Mathematics; Menstruation; Islamic Law; Postpartum; State Law.**How to Cite:** Fauzaydillah, A. A., Tohir, M., & Muhasshanah, M. (2026). Integration of mathematics with Fiqh An-Nisa' based on Islamic law and state law. *Alifmatika: Jurnal Pendidikan dan Pembelajaran Matematika*, 8(1), 38-60. <https://doi.org/10.35316/alifmatika.2026.v8i1.38-60>

## INTRODUCTION

Islamic education focuses not only on mastering knowledge but also on forming a personality based on Islamic values (Komariah & Nihayah, 2023). Integration between religious knowledge and general knowledge is one of the main principles in the development of modern Islamic education. Islam, as a perfect religion, regulates all aspects of human life, including biological problems experienced by women, such as



Content from this work may be used under the terms of the [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/) that allows others to share the work with an acknowledgment of the work's authorship and initial publication in this journal.

menstruation, postpartum, and Istihadhah. These three conditions have significant legal implications for Fiqh, both in the context of worship (such as prayer, fasting, and reading the Al-Qur'an) and in social and household relations (such as husband-wife obligations and the Iddah period). In the study of Fiqh An-nisa', discussions regarding Menstruation, Nifas, and Istihadhah are not only spiritual in nature, but also require a scientific and logical approach (Fadhilah, 2023; Nukhman & Osman, 2024). One necessary approach to clarify legal boundaries in these conditions is through mathematics, particularly in calculating time (days and cycles), identifying normal and abnormal durations, and classifying legal cases based on the length and pattern of bleeding.

For example, according to Islamic scholars, women who menstruate are prohibited from performing certain acts of worship for 6-15 days (Pratama et al., 2023). However, what if the bleeding lasts longer than 15 days? It requires careful calculation to distinguish between menstruation and istihadhah, so that the status of the woman's worship and obligations can be determined precisely. This time calculation is part of the application of mathematics in Islamic jurisprudence. In this context, mathematics, as a science that demands precision, rationality, and systematic thinking, can be integrated with Islamic jurisprudence, particularly the Fiqh of An-Nisa' (Islamic jurisprudence), as a form of integration between rationality and spirituality. Through this integration, students can see that science does not stand alone but is part of a comprehensive Islamic scientific system grounded in monotheism (Abdullah, 2014).

Mathematics is often viewed as an exact science, far removed from religious values (Schilbrack, 2018). However, from an Islamic perspective, all forms of knowledge, including mathematics, reflect the greatness of Allah SWT, the All-Perceived and All-Ruling. In the Fiqh An-Nisa', many aspects of women's lives require a mathematical approach for proper understanding and application, such as inheritance distribution (*Faraidh*), calculating the iddah period, dowry, and maintenance. Thus, mathematics serves not only as a tool for calculation but also as a means of understanding the justice and balance taught in Islamic law.

The integration of mathematics and Fiqh An-Nisa' holds strategic value in the context of contemporary Islamic education. This integration opens up opportunities for contextual, interdisciplinary, and meaningful learning. Through this approach, students are encouraged to connect abstract mathematical concepts with social and legal realities governed by Islamic law (Musthofa, 2024). It aligns with the 21st-century educational paradigm, which emphasizes critical thinking, problem-solving, and cross-disciplinary collaboration as key competencies that need to be developed (Tohir et al., 2020). In the development of contemporary Islamic education, the separation between science and religion remains a prominent issue. Islamic studies are often understood normatively and independently, while scientific approaches have not been fully integrated into the analysis of Islamic law. This situation creates an academic gap, particularly in discussions of Fiqh An-Nisa' (Islamic jurisprudence), which relates to the biological aspects and legal practices of women. Several discussions of traditional Fiqh still rely on textual interpretations without rigorous analytical scrutiny, potentially leading to differences in understanding and ambiguity in the practical application of the law. Based on these conditions, this study positions mathematics not merely as a calculation instrument, but as a rational approach capable of connecting the scientific and spiritual dimensions in the study of Islamic law. Thus, integrating mathematics and Fiqh is expected to provide a more objective, relevant, and adaptable understanding of law to

meet the needs of 21st-century education, which demands interdisciplinary collaboration and comprehensive problem-solving.

On the other hand, Indonesia has a legal system that protects women's rights, including in reproductive health and religious matters (Fitri & Redi, 2024; Nurlatifah, 2020; Wongkar & Ekaputra, 2025). Therefore, integration between Islamic law and state law is necessary, so that discussions on menstruation, postpartum bleeding, and *istihadhah* are not only religiously normative but also in accordance with the principles of justice, health, and protection of women under national law. In practice, the integration of mathematics with women's Fiqh is also closely related to state law, particularly in the Islamic legal system recognized in Indonesia through the Compilation of Islamic Law (CIL). Many articles in the CIL regulate matters related to women's rights in marriage, divorce, and inheritance, which require mathematical calculations to determine fair distribution (Gillani & Farzand, 2024; Khoirunnisa & Hidayati, 2023; Nugraha, 2024). Therefore, an understanding of Islamic law and positive law must be accompanied by mathematical analysis skills so that its implementation is not only normatively valid but also computationally accurate.

The perspectives of Islamic law and state law actually complement each other in realizing social justice for women (Almubarok, 2018; Daulay & Hakim, 2025; Rangkuti, 2017). Islam emphasizes the balance of rights and obligations between men and women, while state law guarantees their protection within the national legal framework. By integrating mathematics into the study of Fiqh An-Nisa' (Islamic jurisprudence), students and researchers can understand that justice in Islamic law is not only moral and spiritual, but also rational and mathematically measurable. It demonstrates that mathematics can serve as a medium for strengthening the understanding and implementation of just, contextual Islamic law.

Beyond academic value, this integration of knowledge has significant educational and social value. In education, particularly in Islamic higher education, this integrative learning model can be a solution to address the ongoing dichotomy between science and religion (Muchtar & Sunhaji, 2022; Ningsih et al., 2022). Through learning that connects mathematics with Islamic jurisprudence (Fiqh) laws regarding women, students acquire not only theoretical knowledge but also critical, reflective, and applied thinking skills in understanding Islamic law and its real-life application. It also supports government policies that emphasize context-based learning and real-life experiences.

Several previous studies have demonstrated the importance of integrating science into Islamic education. For example, research conducted by Suryadi showed that integrating mathematics with Islamic values can simultaneously enhance students' logical and spiritual thinking skills (Rudiana et al., 2025). Another study by Faizi found that a quantitative approach to learning Islamic jurisprudence (Fiqh) helps students better understand the concept of justice in inheritance distribution (Faizi & Ali, 2024). Meanwhile, a study by Asiyah confirmed that combining exact sciences and Islamic knowledge has the potential to strengthen students' religious character, numeracy literacy, and legal awareness (Asiyah et al., 2024). However, research specifically integrating mathematics with Islamic jurisprudence (Fiqh An-Nisa') based on the two legal systems of Islam and the state is still rare, opening up opportunities for more in-depth and innovative research in this area.

Based on various theoretical foundations and the results of previous research, this study is essential to demonstrate that mathematics can synergize with Fiqh An-Nisa', and is relevant to the implementation of state law in safeguarding the rights and

obligations of Muslim women fairly and proportionally. Therefore, this study aims to explore and develop an integration model between mathematical concepts and the analysis of Fiqh An-Nisa' that is in line with the principles of Islamic law and state law. The main objective is to achieve a comprehensive scientific understanding, foster measurable awareness of justice, and strengthen the relevance of Islamic education in addressing the intellectual and social challenges of modern society. This research is expected to make theoretical contributions to the development of the concept of scientific integration in Islamic education environments, as well as practical contributions to learning Fiqh that are more logical, measurable, and data-driven. Thus, the results of this study are expected to strengthen the paradigm of Islamic education that is holistic, integrative, and oriented towards the welfare of the community within a comprehensive and just scientific framework.

## **RESEARCH METHODS**

This research uses a qualitative approach with a descriptive-analytical type, because its primary focus is to explore in depth the meaning, concept, and relationship between mathematics and Fiqh An-Nisa' within the framework of Islamic law and state law. This approach was chosen to understand the phenomenon of scientific integration not only from an empirical perspective but also from philosophical, normative, and pedagogical dimensions (Taber, 2013). This research aims to explain the role and function of mathematics in establishing Fiqh laws regarding Menstruation, Nifas, and Istihadhah, analyze Islamic legal provisions related to these three conditions and their relationship with Indonesian state law, and build integration between the exact approach (mathematics), women's Fiqh, and national law in the context of the protection and empowerment of Muslim women.

The data sources in this study are divided into two categories: primary sources and secondary sources. Primary sources, in the form of classical and contemporary Fiqh books that specifically discuss the laws of menstruation in Islam, such as the book Fiqh An-Nisa', Fath Al-Qarib, the book Fiqhul Mar'ah Al Muslimah, the book of Syaikh Kamil Muhammad Uwaidah, and the book Muhimmatun Nisa'. Secondary sources, such as scientific journals, research articles, relevant theses or dissertations, and Islamic education books, discuss strategies for fostering religious understanding in Islamic boarding schools. These include junior and senior high school mathematics books and journals on the integration of Islamic Religious Education and mathematics. The collected data were analyzed using the Miles and Huberman interactive analysis model, which includes three main stages: data reduction, data presentation, and drawing and verifying conclusions. The analysis was carried out repeatedly, reflectively, and interpretively to find patterns of integration between mathematical principles, Islamic law, and state law.

A triangulation approach to sources and methods was used in this study to maintain data validity (Bans-Akutey & Tiimub, 2021; Donkoh & Mensah, 2023; Moon, 2019; Santos et al., 2020). Source triangulation was conducted by comparing interview results across informants, while methodological triangulation was achieved by combining interview, observation, documentation, and literature results. Data validity was also strengthened through member checks with key informants and academic consultations with experts in Islamic law and mathematics education. The final results of this study are expected to produce a conceptual model of integration between

mathematics and Fiqh An-Nisa' that is relevant to the context of Islamic law and state law, and can be used as a basis for the development of an integrative curriculum and learning strategy that fosters logical, moral, and spiritual awareness in modern Islamic education.

## **RESULTS AND DISCUSSION**

This research begins with an attempt to discover a concrete form of integration between mathematics and Fiqh An-Nisa' as a manifestation of the harmonization of scientific rationality and Islamic normative values within the framework of Islamic law and state law. Using a descriptive qualitative approach, this study examines the application of the principles of mathematical rationality and proportionality in women's laws, such as menstruation, postpartum bleeding, and istihadhah. The results presented below illustrate the concrete form of this scientific integration in Islamic education and its implications for strengthening justice and legal objectivity.

### **A. Research result**

The integration of mathematics and An-Nisa' Fiqh in the study of Menstruation, Nifas, and Istihadhah presents a new, more rational, and measurable approach to understanding Islamic law. Using a mathematical approach, the periods and time limits for these three conditions are highly dependent on day calculations and cycle patterns, which are essentially mathematical. Therefore, it is hoped that this approach will provide a more rational, objective, and Sharia-compliant solution and demonstrate the role of mathematics as an essential tool for interpreting Islamic law scientifically and contextually.

#### **1. Understanding Menstruation, Postpartum, and Istihadhah in Islamic Law**

Fiqh etymologically means understanding, comprehension, and knowledge means deep understanding that requires the direction of the potential of reason. Fiqh is defined terminologically as practical sharia law (Amaliyah) derived from detailed evidence, and it can also be understood as an understanding of sharia law based on this evidence. Women's Fiqh is derived from two words: Fiqh and women, as defined above. Fiqh is the knowledge of Sharia law, which is based on evidence and understood through reason. While women are referred to as women, daughters, wives, or mothers, God created them to marry men who will fulfill God's rules.

Abu Hanifah defined it as knowledge of one's rights and obligations; in other words, knowledge of what is right and wrong. Before the advent of Islam, women were looked down upon, abused, and enslaved. It even applied to the People of the Book and some religious followers. They were freed from the shackles of Islamic slavery after the light of Islam emerged with the preaching of the Prophet Muhammad. It was a tremendous gift for women in their time. Women constitute half of humanity, and in the future, there will be more women than men. According to the teachings of the Quran, women have responsibilities towards themselves and those around them. Consequently, studying Fiqh (Islamic jurisprudence) is crucial for women. Based on the definition of Fiqh for women above, it can be said that Fiqh for women is a field of knowledge that focuses on women and addresses various Islamic laws and regulations governing them.

According to the majority of scholars in the book Fiqh Nisa', the blood that comes out of a woman's womb is divided into three parts: menstrual blood, Istihadzoh blood,

and Nifas blood, with several colors described in the book, namely jet black, red, yellow, brown, and cloudy. Scholars agree that black and red blood is menstrual blood, based on the following Hadith.

عن عروة عن فاطمة بنت أبي جحش: أَنَّهَا كَانَتْ تُسْتَحَاضُ فَقَالَ لَهَا النَّبِيُّ صَلَّى اللَّهُ عَلَيْهِ وَآلِهِ وَسَلَّمَ إِذَا كَانَتْ دَمًا

الْحَيْضَةَ فَإِنَّهُ أَسْوَدُ يُعْرَفُ، فَإِذَا كَانَ كَذَلِكَ فَأَمْسِكِي عَنِ الصَّلَاةِ، فَإِذَا كَانَ الْآخَرَ فَتَوَضَّئِي وَصَلِّي فَإِنَّمَا هُوَ عِرْقٌ

Meaning: “From Urwah, from Fatimah bint Abi Jahsy, that she was bleeding. Thus, the Prophet was patient with her: “If it is menstrual blood, then the color looks black. If that is the case, then you stop praying. But if so, perform ablution, then pray. Because it’s just a muscle disorder.” (Zazilatun, 2020)

According to the argument above, the black color of blood serves as a benchmark in examining its nature. It means that if the blood is black, then it is called menstrual blood. Meanwhile, if it is another color, it is referred to as istihadzah blood, according to H.R. Abu Daud, with the addition of Ad-Daruquthni, Al-Baihaqi, and Al-Hakim, below.

فَإِنَّمَا هُوَ دَاءٌ عَرَضٌ، أَوْ رُكُضَةٌ مِنَ الشَّيْطَانِ، أَوْ عِرْقٌ انْقَطَعَ

Meaning: “It is nothing but a disease that befell you or a devil’s disorder or a broken muscle.” (Critchley, 2018)

According to another opinion, the minimum duration is 3 days and 3 nights, the maximum is 15 days, and the moderate duration is 5 days. If the blood comes out continuously, but then subsides and comes out again, it is considered menstrual blood according to the provisions of the following Hadith (Nuroniya, 2022).

لَا يَكُونُ الْحَيْضُ أَكْثَرَ مِنْ عَشْرَةٍ: سَمِعَ أَنَسًا يَقُولُ عَنْ الرَّبِيعِ بْنِ صَبِيحٍ أَنَّهُ

The Hadith above states that a companion of the Prophet once heard Anas say, “Menstruation lasts no more than ten days.” In Islam, the status of worship and certain activities changes when a woman experiences menstruation or postpartum bleeding. The following table summarizes this.

**Table 1.** Worship Status of a Woman during Menstruation, Postpartum, Istihadhah

Condition	Shalat	Fast	Read The Al-Qur'an	Husband-Wife Relations
Haid	Not Allowed	Not Allowed	Not Allowed	Not Allowed
Nifas	Not Allowed	Not Allowed	Not Allowed	Not Allowed
Istihadhah	Allowed	Allowed	Allowed	Allowed with Conditions

Menstruation is blood that comes out of a woman's uterus healthily at certain times. According to the book (Fiqhul Mar'ah Muslimah), menstruation is blood that comes out of a woman's vagina in a healthy state, not because of childbirth or the rupture of the hymen. Most scholars believe that menstruation does not occur before a girl reaches 9 years of age. So if it comes out before the age of 9 from her vagina, it is not menstrual blood, but blood from a disease. This blood discharge usually occurs once a month until menopause. Linguistically, menstruation means flow. Meanwhile, in terms of menstruation, it is impure blood that comes out of a woman's uterus after puberty during a healthy time and without cause, at certain times (Asmawati, 2021). The very diverse definitions include the definition of menstruation from several books (Alimah, 2021), as follows.

- a. Menstrual blood is blood that comes out of the womb of a woman who has reached puberty for no reason, but it has become a habit to come out every month.
- b. Menstrual blood is the blood that comes from the vagina during a woman's menstrual cycle, starting at age 9 or older, in a healthy woman, not due to illness. It is a natural female phenomenon, not a result of childbirth.
- c. Menstrual blood is blood that comes out of the genitals or vagina of a woman in a healthy condition, not due to childbirth or rupture of the hymen.

In the Fiqh Nisa' book, a woman's minimum menstrual period is 1 day and 1 night (24 hours), and the maximum is 15 days (24 hours x 15 days). The minimum period of purity is 15 days, and the maximum period is unlimited (Saputri, 2024).

عن انبي صلى الله عليه وسلم في الذي ياء تي امراته وهي حائض : عن ابن عباس  
يتصدق بدينا راو بنصف دينار

According to Sheikh Kamil Muhammad Uwaidah, women are divided into three groups: women who have just started menstruating, women who are used to menstruating, and women who experience Istihadzoh bleeding (Chasanah, 2021; Setiawan, 2021). Here are some opinions from four schools of thought.

#### 1) Madzab Maliki

Scholars state that if a girl aged 9-13 bleeds, it is considered menstrual blood. However, if there is any doubt, it is considered merely blood from an illness. Blood from a woman aged 13 to 50 is definitely menstrual blood. Blood from a woman over 50 is not menstrual blood but istihadhah blood, and the same applies to women over 70 or under 9 years old (Kamal et al., 2019).

#### 2) Madzab Hanafi

Blood that comes out of a 9-year-old girl is called menstrual blood until she is 55. However, if she is over 55 years old, it is not considered menstrual blood unless the blood is strongly colored, specifically black or dark red; then it can be regarded as menstrual blood (Feminia, 2025).

#### 3) Madzab Hambali

The age limit for women who have menstruation is up to 50 years old. Thus, if you are over 50, even if the blood that comes out is strong, it is not considered menstrual blood (Putri et al., 2023).

4) Madzab Syafi'i

There is no limit to women's menstruation, although, in general, it stops at age 62, which marks the Iyas (the period of stopping menstruation) (Fauzizah & Masruri, 2024).

Istihadzoh is blood that comes out of a woman's womb through illness with an uncertain outcome, so there is no barrier to prayer, fasting, and other acts of worship that cannot be carried out during menstruation and Istihadzoh. Types of Istihadzoh Blood include the following.

- a. Blood loss is less than the shortest menstrual period
- b. Blood loss exceeding the most extended menstrual period
- c. Blood loss is less than the shortest postpartum period
- d. Blood loss exceeding the most extended postpartum period
- e. Blood loss exceeding the usual duration of menstruation and postpartum bleeding, i.e., exceeding the usual duration of both, is called menstruation or nifas.
- f. According to Ahmad and the Hanafi scholars, this also includes blood loss from a pregnant woman due to a blocked cervix.

The conditions of Mustahadhah women include the following.

- a. Mu'tadi'ah Mumayyizah (unclear) refers to women who have just menstruated and can distinguish blood types. For example, blood color: black or red indicates strong blood, while yellow, brown, or green indicates weak blood.
- b. Mu'tadi'ah Ghairu Mumayyizah (unclear) refers to women who cannot distinguish the color of the blood coming from their uterus. Therefore, such women are considered to menstruate for only one day and a night, while the remaining 29 days of the month are considered pure.
- c. Mu'tadah Mumayyizah refers to women who are already familiar with the nature of blood and have experienced it before. Therefore, such women must adhere to the size and timing of their most recent menstruation (following custom/habit).
- d. Mu'tadah Ghairu Mumayyizah refers to women who do not know the nature of blood but have frequently experienced it, so they are guided by past customs, as narrated by Umm Salamah.

أَنَّ امْرَأَةً كَانَتْ تَهْرَاقُ الدِّمَاءَ عَلَى عَهْدِ رَسُولِ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ فَأَسْتَفْتَيْتُ لَهَا رَسُولَ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ فَقَالَ: لِنَنْظُرِ عِدَّةَ اللَّيَالِي وَالْأَيَّامِ الَّتِي كَانَتْ تَحِيضُهُنَّ مِنَ النَّهْرِ قَبْلَ أَنْ يَصِيبَهَا مَا أَصَابَهَا فَلْتَنْتِرِكَ الصَّلَاةُ قَدْ رَدَّكَ ذَلِكَ مِنْ كُلِّ شَهْرٍ

Meaning: "That a woman bled profusely during the time of Rasulullah SAW. So I asked Rasulullah SAW about this, to which he answered: "The woman should remember how many nights and menstrual blood she had experienced in the last month before she suffered istihdzah. Thus, let her leave, praying all those days every month." (Al-Khasyt, 2017)

Nifas is the blood that comes out after giving birth or the blood that comes out after the birth of most children, even if it is only a miscarriage, as long as some of its form is clearly visible. A woman's nifas lasts at least one drop of blood and a maximum of 60 days according to the majority of scholars, but most women in our environment have nifas for 40 days according to the Fiqh nisa' book that they study.

During menstruation and postpartum bleeding, women are not permitted to pray, fast, enter the mosque, read or touch the Al-Quran, circumambulate the Kaaba, or have sexual intercourse. However, they are required to make up for missed fasts. According to the Hadith of Abu Sa'id, women during menstruation and postpartum bleeding are not required to pray or fast (Lubis & Marpaung, 2024).

أَنَّ النَّبِيَّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ قَالَ لِلنِّسَاءِ: أَلَيْسَ شَهَادَةُ أَلْمَرَأَةِ مِثْلُ نِصْفِ شَهَادَةِ الرَّجُلِ؟ قُلْنَ: بَلَى، قَالَ: بَلَى، فَذَلِكَ مِنْ نُقْصَانِ عَقْلِهَا، أَلَيْسَ إِذَا حَاضَتْ لَمْ تُصَلِّ وَ لَمْ تُصُمْ؟ قُلْنَ: الرَّجُلُ؟ قُلْنَ: بَلَى، قَالَ: بَلَى، فَذَلِكَ لِكُنْ مِنْ نُقْصَانِ دِينِهَا

Meaning: That the Prophet SAW once said to women: "Isn't a woman's testimony the same as half of a man's testimony?"

They answered: "Yes."

The Prophet also said, "That is his lack of reason."

And isn't it true that if she menstruates, she doesn't pray or fast?"

The women also answered: "Yes."

So the Prophet said: "That is the weakness of his religion."

Women who are menstruating are prohibited from praying, as the Prophet said:

إِذَا أَقْبَلَتْ الْحَيْضَةَ فَدَعْ عَنِ الصَّلَاةِ

Meaning: "When your period comes, then leave the prayer." (Manshur, 2019)

## Integration with Mathematics

Mathematics, especially in the form of basic arithmetic and time logic, is essential in determining the legal status of women who experience menstrual bleeding, nifas, or istihadhah. Here are its roles: (a) Menstrual Cycle Calculation: Helps in recording and calculating the number of days of menstruation. If blood comes out outside the usual cycle, then it could be istihadhah; (b) Determining Maximum and Minimum Limits: Based on the ijthad of scholars, the minimum and maximum limits of menstruation or nifas can be calculated precisely using units of days and hours; and (c) Differentiation Between Menstruation and Istihadhah: For example, if a woman usually menstruates for 7 days, but suddenly experiences bleeding for 20 days, then the first 7 days are ruled as menstruation and the remaining Istihadhah can be determined mathematically/logically.

## 2. Numbers and Arithmetic Operations

- Calculating the number of days of menstruation or the postpartum period
- Example: A female student named Aisyah experiences menstruation from the 3rd to the 9th of Ramadan, totaling 7 days. Therefore, Aisyah must make up for her 7-day fast.
- Predicted start day of next period (average cycle)  
Students can demonstrate how simple arithmetic and statistics help predict the onset of menstruation. The formula for the average (mean) cycle length is:

$$\bar{L} = \frac{1}{N} \sum_{i=1}^N L_i$$

Where,  $L_i$  = length of the i-th cycle (in days), N = number of observation cycles

Example of a 5-month cycle: 28, 30, 27, 29, 31

Digit-by-digit addition steps:

- 1) Calculate the total:  $28 + 30 + 27 + 29 + 31$   
 $28 + 30 = 58$   
 $58 + 27 = 85$   
 $85 + 29 = 114$   
 $114 + 31 = 145$

- 2) Average  $\bar{L} = 145/5 = 29$  days

Prediction: If the last start day was August 5, the next start prediction = August 5 + 29 days

Calendar steps:

August has 31 days

$$5 + 29 = 34$$

$$34 - 31 = 3 \rightarrow \text{September 3}$$

- 3) Uncertainty: Simple standard deviation, to show cyclical variability.  
 Sample standard deviation formula:

$$s = \sqrt{\frac{1}{N-1} \sum_{i=1}^N (L_i - \bar{L})^2}$$

Example of continuation of the data above

- 1)  $\bar{L} = 29$  calculate the squared deviation

$$(28 - 29)^2 = 1$$

$$(30 - 29)^2 = 1$$

$$(27 - 29)^2 = 4$$

$$(29 - 29)^2 = 0$$

$$(31 - 29)^2 = 4$$

- 2) Sum of squared deviations =  $1 + 1 + 4 + 0 + 4 = 10$

- 3) Varians (sample) =  $10/(5-1) = 10/4 = 2,5$

- 4) Standard deviation  $s = \sqrt{2.5} \sim 1.5811 \rightarrow$  interpretation: average cycle  $29 \pm 1.58$  days (indicates cycle consistency).

### 3. Number Line/Mathematical Calendar

Marks the start and end of your period on a timeline. This tool helps visualize your period over the course of a month.

**Table 2.** Number Line/Mathematical Calendar

Cycle Stages	Duration (average)	Visualization / Color	Key Metaphor
Menstruation Phase	Hari 1 - 7	Red color or blood drop/rain cloud icon in the early days	The shedding/cleaning phase. It's like emptying and cleaning a room in preparation for the future.
Follicular Phase	Hari 7 - 14	Yellow/light green color or increasing graph line (indicates rising hormones)	The Growth/building phase is like planting seeds and preparing the soil.
Ovulation	Hari 14 (±1-2 hari)	Bright green / star/peak (as a focal point)	The peak opportunity is like a fruit that is ripe and ready to be picked
Luteal Phase	Hari 15-28	Orange/brown or cloudy (to depict potential PMS), then back to red	The waiting / winding Down Phase (waiting/winding down phase is like waiting for the harvest or preparing for a new cycle.

#### 4. Simple Statistics

Mencatat pola haid selama selama 6 bulan: menghitung rata-rata panjang siklus  
 Contoh: data haid; 6, 7, 8, 7, 6, 9 hari; rata-rata =  $(6 + 7 + 8 + 7 + 6 + 9) \div 6 = 7.2$  hari.

**Table 3.** Source Data for Simple Statistics

Month	Menstrual Duration (Days)	Fiqh Contest
Month	6	Within average limits (6-7 days)
Month	7	Within average limits
Month	8	Slightly above average
Month	7	Within average limits
Month	6	Within average limits
Month	9	Still within the maximum limit of 15 days
Average	7,2 Days	This average determines the customs when Istihadhah occurs

Simple Statistics: Menstruation, Postpartum, and Istihadhah (AUB)

##### a. Menstruation – Global Standards

It is the basis for defining what is considered “normal” medically, which will help the audience understand disorders (AUB / Istihadhah).

**Table 4.** Menstruation – Global Standards

Parameter	Normal Range (FIGO Standards)	Key Visualization
Cycle Frequency	24 to 38 Days	Show a 28-day calendar with an arrow pointing around.
Menstrual Duration	≤ 8 Days	Small bar: 7 Days or Less
Blood Volume	5 to 80 ml per cycle	Metaphor: Equivalent to 1 to 5 Tablespoons (Heavy is 5 Tbsp)
Age at Menarche (early ha)	Global average 12 to 13 Years	Highlight the fact that this is the starting point for reproductive health.

b. Istihadhah (Abnormal Uterine Bleeding [AU B]0 - Prevalence and Impact

In medical contexts, istihadhah is often categorized as Abnormal Uterine Bleeding (AUB) or Menstrual Disorders. This data is crucial because it indicates a widespread health problem.

**Table 5.** Istihadhah Prevalence and Impact

Statistical Aspects	Simple Global Data	Impact on Quality of Life
Lifetime Prevalence	Up to 33% (1 in 3) of women will experience AUB (abnormal bleeding) in their lifetime.	Eight out of ten women with AUB report a negative impact on their quality of life.
Prevalence During Productive Age	It ranges from 10 to 30% of women of reproductive age worldwide.	AUB is the most common reason for referral to a gynecologist.
Heavy Menstrual Bleeding (HMB)	In some European regions, the prevalence reaches 27%.	It is a leading cause of iron deficiency anemia in both developed and developing countries.
Peak Incidence	It most commonly occurs during perimenarche (early adolescence) and perimenopause (around the 40s and 50s).	It highlights vulnerability at the extremes of reproductive age.

c. Postpartum Bleeding (Lochia) Duration and Risks

Postpartum is a natural process after childbirth. This data shows how long the internal recovery process after childbirth takes.

**Table 6.** Nifas Durasi dan Risiko

Parameters	Standard Range (Average)	Risks and Complications
Lochia Duration	4 to 6 weeks (28 to 42 days)	While some cases may stop sooner or last up to 8 weeks, 6 weeks is the general threshold.
Heavy Bleeding	Flow will be very heavy for the first 3 to 10 days, then decrease.	Postpartum Hemorrhage (PPH): 3–5% of women experience postpartum bleeding.
Uterine Recovery Time	The uterus returns to its pre-pregnancy size (involution) within ~6 weeks.	Emphasizes that 6 weeks (the postpartum period) is a critical period for healing.

**5. Mathematical Logic (If-Then)**

If the bleeding lasts more than 15 days, then some of it is considered Istihadzoh.

If the bleeding stops before 15 days, then the whole thing is considered menstruation.

If-Then (Implication) is used to determine the legal status (Menstruation/Istihadhah) discretely based on the time limit and pattern of bleeding. Mathematical logic is also used in the Compilation of Islamic Law (HKI) in Indonesia to protect women's rights after divorce.

a. Classification of Menstrual Bleeding

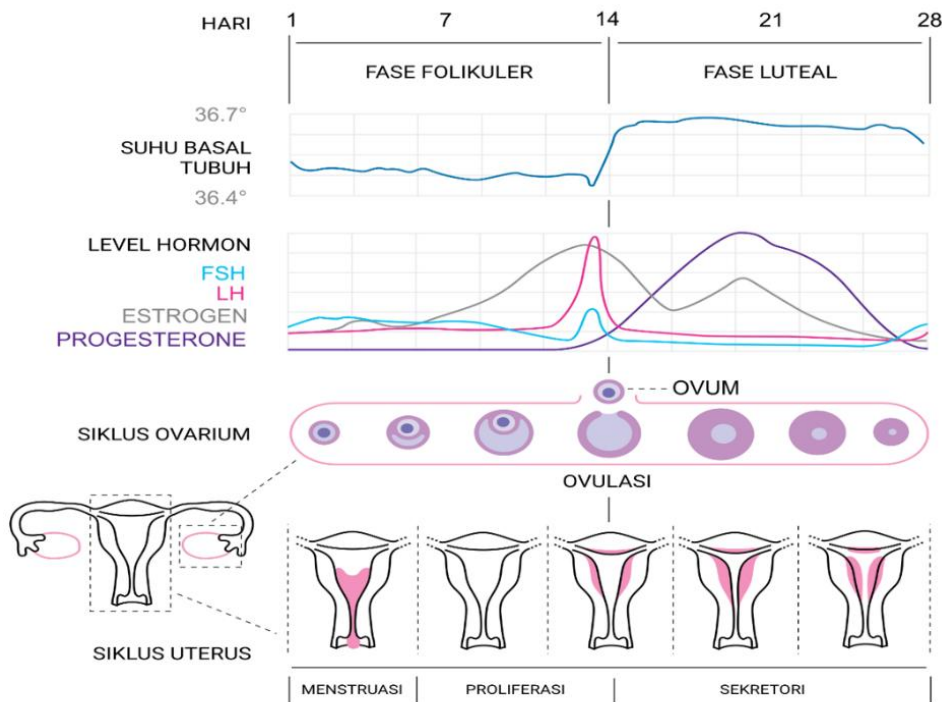
In Islamic jurisprudence, the maximum menstrual period is 15 days. If-then logic helps determine the legal status of the total bleeding period. Mathematical logic is also used in the Compilation of Islamic Law (CIL) in Indonesia to protect women's rights after divorce.

**Table 7.** Classification of Menstrual Bleeding

Variables (P = Condition, Q = consequence)	State Legal Definition	If-Then Statement (P→Q)	Social/Legal Implications
Right to Support	Duration of bleeding	If the husband divorces his wife (P), THEN the wife is entitled to maintenance during the iddah period (Q).	Protection of women's economic rights is guaranteed through formal legal mechanisms.
Right to Justice	Divorce occurs (P)	The divorce occurs (P), THEN the husband is obliged to provide mut'ah (gift or expense) (Q).	Ensuring respect and avoiding exploitation or neglect by husbands is essential.

## 6. Diagram/Graph

- Timeline: Marks the start and end of the menstrual cycle (Bleeding Phase) and Clean Phase on a 28-day timeline. It helps the audience see that menstruation is only a small part of the cycle.
- Cycle Diagram (*Wheel*): Visualizes the menstrual cycle over a year, showing 12 cycles per year (based on an average of 28 days). This diagram also indicates variability caused by stress, age, and PCOS.
- Hormone Graph: Used to visualize how hormonal changes (FSH, LH, Estrogen, Progesterone) trigger the biological phases of menstruation, including ovulation.



**Figure 1. Women's Menstrual Cycle** (Mihm et al., 2011)

Based on Figure 1 above, the elements are as follows.

- 1) Menstrual phase ↔ shedding of the uterine lining + bleeding
- 2) Follicular (proliferative) phase ↔ follicles in the ovaries begin to grow, estrogen increases, and the uterus thickens.
- 3) Ovulation ↔ egg is released.
- 4) Luteal/secretory phase ↔ corpus luteum is active, progesterone + estrogen levels are high, and the uterus is ready to receive an egg.
- 5) Hormonal changes (FSH, LH, estrogen, progesterone) during the cycle.
- 6) Graph of body/ovarian/uterine cycle & wet temperature/cervical mucus (in some phases)

Menstrual Cycle throughout 1 Year:

Since a woman's normal menstrual cycle is approximately  $\approx 28$  days (ranging from 21 to 35 days), there will be approximately 12 cycles in a year. However, there is monthly variability (some cycles are shorter or longer).

**Table 8.** Describing Menstruation in One Year

Month	Predicted Day 1 of Menstruation (Based on a 28-day cycle)	Main Phases and Biological Changes	Quantitative Variability and the Legal Context of Fiqh
January	Day-1 (start of menstruation)	Menstrual phase →	The onset of menstruation must last $\geq 1$ day and $\leq 15$ days.
February	Hari ~ 29	(~6 days) follicular phase	29-day cycle (slightly longer). The clean period between two periods must be $\geq 15$ days.
March	Hari ~ 57	Follicular → ovulation (~14 days) → luteal	Follows a 28-day pattern. This duration is used to calculate the obligation to make up missed fasts.
April	Hari ~ 86	Menstruation → Follicular	29-day cycle. Variations may occur due to stress and nutritional factors.
May	Hari ~ 112	Ovulation → Luteal	26-day cycle (slightly shorter). It is still within the normal range of 21-35 days.
June	Hari ~ 141	Menstruation → Follicular	29-day cycle: if bleeding lasts more than 15 days, customs/patterns from previous months are used to determine menstruation.
July	-	Luteal → Menstruation	--
August	-	-	--
September	-	-	Variations can be high in adolescents or those approaching menopause.
October	-	-	There may be cycle irregularities (35+ days) due to illness or hormonal disorders (PCOS).
November	-	-	The onset of menstruation must last $\geq 1$ day and $\leq 15$ days.

Month	Predicted Day 1 of Menstruation (Based on a 28-day cycle)	Main Phases and Biological Changes	Quantitative Variability and the Legal Context of Fiqh
December	Hari ~ 337	-	29-day cycle (slightly longer). The clean period between two periods must be $\geq 15$ days.

Several factors can cause an inconsistent cycle, including the following:

- a. Stress (physical or emotional)
- b. Changes in weight/nutrition
- c. Extreme physical activity
- d. Disease/hormonal disorders
- e. Effects of medications or medical conditions such as PCOS (polycystic ovary syndrome)
- f. Age (teenagers and those approaching menopause usually experience high variability)

## 7. State Law

Fiqh An-Nisa' is a branch of Islamic jurisprudence (Fiqh) that addresses specific laws concerning women, ranging from worship, marriage, divorce, inheritance, and the protection of women's rights. This Fiqh is derived from the Quran, Hadith, and the opinions of Islamic scholars, and serves as a normative guideline for Muslims. Meanwhile, state law is the formal rules applicable in society, established by the government to ensure social order and justice. In the Indonesian context, state law essentially accommodates the teachings of Fiqh An-Nisa', particularly through the Marriage Law, the CIL, and the Women's Protection Law.

The relationship between state law and Fiqh An-Nisa' is evident in various aspects. In marriage, Fiqh emphasizes valid requirements such as a guardian, witnesses, a dowry, and the consent and acceptance of marriage vows (Ijab Qabul). At the same time, state law adds administrative requirements, such as marriage registration and a minimum age of 19. In divorce, Fiqh permits the husband to pronounce divorce directly, while state law requires divorce to be filed through a Religious Court to protect women from the harm caused by unilateral divorce. Regarding polygamy, Islamic jurisprudence (Fiqh) permits up to four wives under fair conditions, while state law restricts it to court permission and the wife's consent.

This integration demonstrates that state law does not negate the Islamic jurisprudence (Fiqh An-Nisa') but rather complements it to suit the modern context, human rights protection, and legal certainty. Thus, state law and Islamic jurisprudence (Fiqh An-Nisa') are complementary: Islamic jurisprudence serves as the normative foundation of religion, while state law guarantees practical protection and certainty for women in the social, family, and legal spheres.

According to Indonesian law, there is no written law explicitly prohibiting worship during menstruation, as the state does not interfere with personal worship. The principle of Indonesian law is that it does not regulate religious practices in detail but

rather facilitates diversity. However, Islamic law remains the basis for the following institutions:

- 1) Islamic Religious Education Curriculum  
In official textbooks based on the independent curriculum, previously, the laws of menstruation and worship were explained according to Fiqh, and the state made Fiqh a formal educational material.
- 2) Hajj Guidance  
In the Hajj regulations (Indonesian Ministry of Religion), menstruating women are prohibited from performing Tawaf. Hajj officials guide them to replace them after they are pure, and the law of Fiqh An-Nisa' is used as an official reference in the technical aspects of national worship.
- 3) Compilation of Islamic Law (CIL) is not direct.  
CIL does not discuss women's worship in detail, but acknowledges the existence of Fiqh law regarding the status of menstruation, such as in the case of marriage, divorce, and Iddah for women.

*Case example 1: Iddah period for divorced women*

- a. Fiqh An-nisa': In Islam, divorced women (Talak) are required to undergo the Iddah period for three holy times (for those who menstruate), 3 months (for those who do not menstruate), until giving birth (if pregnant). The Iddah period confirms the child's lineage, allows time for reconciliation (if talak raj'i), and serves as an emotional transition period for women.
- b. State Law: Article 153 KHI (Compilation of Islamic Law): Women during the Iddah period may not marry another man unless their Iddah period has been completed. For it to be recognized as valid under positive law, marriages performed during the iddah period can be annulled. Integration with Fiqh an-nisa' and state law is for social order, legal certainty, and protecting the rights of women and children.

*Case Example 2: Rights to maintenance and Mut'ah after divorce*

- a. Fiqh An-Nisa': Divorced women are entitled to maintenance during the iddah period and also have the right to receive mut'ah (gifts/costs as a form of respect from the husband).
- b. State Law: Article 1 of the Compilation of Islamic Law (CIL) states that the husband is obliged to provide maintenance during the iddah period, a reasonable mut'ah, and any unpaid dowry (if any). Integration occurs because the principle of Fiqh an-Nisa' forms the basis of state law, protecting women's economic rights after divorce and preventing exploitation or neglect by the husband.

*Case Study 3: Child Marriage and Age Limits*

- a. Fiqh An-Nisa': In classical Islamic jurisprudence, a woman may be married after puberty (first menstruation), although it is not recommended if she is not yet physically or psychologically mature.
- b. State Law: Previously, the 1974 Marriage Law set the minimum age for marriage at 16 years for women. After amendments to Law No. 16 of 2019, the minimum age was raised to 19 years for both men and women. This case is not a direct integration, but rather an adjustment to demonstrate the tension between classical

Islamic jurisprudence and the protection of children's/women's rights in a modern context. The state is also adapting to prevent the practice of early child marriage, which can be detrimental to women, even though Islamic jurisprudence permits it under certain conditions. In practice, in the cases above, religious courts become a concrete space for the integration of Fiqh An-Nisa' and state law. Judges' decisions also serve as a bridge between classical Islamic jurisprudence texts and modern legal realities, ensuring that women's rights are guaranteed through formal legal mechanisms, although challenges remain in their implementation. Thus, Fiqh An-Nisa' is not just about restrictions, but also about protecting, respecting, and empowering women within the framework of Sharia. Many positive laws actually adopt Fiqh An-Nisa' with a contextual approach, including defending women's rights in the family, social, and economic spheres.

## **Discussion**

The research findings presented demonstrate that the integration of mathematics and Fiqh An-Nisa' is not merely an interdisciplinary endeavor, but rather a concrete form of synergy between scientific rationality and Islamic normative values. This section discusses in depth the research findings on the integration of mathematics and Fiqh An-Nisa' in the context of the laws of menstruation, postpartum bleeding, and istihadhah. The analysis focuses on applying mathematical principles to understand the time limits, periods of purity, and the different characteristics of these three conditions. Thus, mathematics serves as a rational tool to clarify Islamic law while strengthening the harmony between sharia norms and state legal provisions.

From an Islamic legal perspective, menstruation, postpartum bleeding, and istihadhah are three biological conditions in women that have legal implications for worship, purity, and socio-religious activities. The Qur'an and Hadith provide general guidelines regarding their limits and consequences, but determining their timing and duration requires rational analysis (Agha et al., 2023). Fiqh stipulates that menstruation typically lasts between six and fifteen days, postpartum bleeding is a maximum of forty days, and istihadhah is indefinite because it is a medical condition. It is where mathematics plays a crucial role, providing a precise measure of time to determine whether a person is in a state of purity, so that legal decisions can be enforced accurately and fairly.

The concept of numbers and arithmetic operations is the primary foundation for determining the periods of menstruation, postpartum bleeding, and Istihadhah (Kasim et al., 2024). Through simple calculations, addition, subtraction, and division, the duration, monthly cycle, and intervals between periods of purity can be determined. For example, a woman who menstruates for seven days every 28 days can be mathematically predicted to experience fourteen cycles in a year. This approach not only facilitates understanding of Islamic jurisprudence but also teaches logical, thorough, and data-driven thinking, in line with the principles of calculation in classical Islamic scholarly tradition.

The application of a number line or mathematical calendar provides a visual method for analyzing the patterns of menstruation, postpartum bleeding, and Istihadhah (Binti Abdullah et al., 2023). By depicting each cycle on a timeline, regularities and deviations in the patterns can be seen, which form the basis for legal decisions. For example, a number line helps mark the days of menstruation and the periods of purity

sequentially, making it easier for women to determine the times for prayer, fasting, or other acts of worship. In the context of Islamic education, the use of mathematical calendars also strengthens numerical literacy and time awareness within the framework of Sharia, making mathematics both a spiritual and scientific tool.

Simple statistics help analyze women's cycle data to identify general trends and individual patterns. By collecting data on menstrual duration and the period of purity from several respondents, the average, mode, and median can be calculated, providing an empirical picture of women's biological variations. These findings are essential for supporting fatwas and religious policies, making them more contextual and in line with biological reality. Furthermore, the statistical approach reflects the value of 'adl (justice) in Islamic law (Santoso & Batubara, 2024), as legal decisions can be based on objective data, not mere assumptions.

Mathematical logic, particularly conditional statements (if-then), is highly relevant in determining the rulings on menstruation, postpartum bleeding, and istihadhah. For example, "If bleeding lasts more than 15 days, then it is not menstruation but istihadhah." This way of thinking aligns with the *istinbath* method of Islamic law, which uses *qiyas* (rational analogy) (Mappasessu & Akmal, 2025). By applying formal logic, *Fiqh* can be systematically structured and avoid contradictions. This approach shows that Islam supports critical and deductive thinking in understanding the law, making mathematical logic an epistemological means to confirm the truth of Sharia law.

Diagrams and graphs visualize the relationships among the timing, frequency, and duration of menstruation, postpartum bleeding, and *Istihadhah* (Fadhilah, 2023; Kamal et al., 2019; Kasim et al., 2024). For example, a bar chart can be used to compare menstrual periods each month, while a line graph shows the pattern of cycle changes. This visualization simplifies legal interpretation and provides an intuitive understanding for both students and the general public. In a teaching context, this approach supports integrative learning between mathematics and Islamic studies, making Sharia law easier to understand through informative quantitative and visual representations.

From a legal perspective, discussions of menstruation, postpartum bleeding, and *Istihadhah* are relevant to reproductive health, women's rights, and the practice of worship in public spaces (Pratama et al., 2023). Indonesian laws, such as Law Number 36 of 2009 concerning Health and Law Number 1 of 1974 concerning Marriage, indirectly support Sharia principles in maintaining the dignity and well-being of women (Indonesia, 2009). The integration of mathematics into women's jurisprudence can strengthen the implementation of just and scientifically informed state laws. Thus, a harmonization of Islamic law and positive law occurs, emphasizing the value of public welfare (*maslahah mursalah*) as the basis for public policy.

Based on the overall discussion, it can be concluded that mathematics serves as a rational and methodological instrument in understanding *Fiqh An-Nisa'*, particularly in the context of the laws of menstruation, postpartum bleeding, and *istihadhah*. The integration of the two strengthens the clarity of Islamic law, broadens the horizons of religious education, and builds an epistemological bridge between the exact sciences and spiritual sciences. This approach not only affirms Islam as a scientific and rational religion but also demonstrates that God's law can always be understood through an intellectual and empirical approach oriented toward justice and public welfare.

## Conclusion

The integration of mathematics, Fiqh An-nisā', and state law demonstrates how the principles of logic, quantitative analysis, and legal and religious norms can complement each other in social and spiritual life, particularly regarding women. These include: (a) mathematics plays a role in providing systematic analytical tools to solve legal and social problems, such as inheritance distribution, calculation of maintenance, and marriage age limits. For example, inheritance distribution in Fiqh An-nisā' uses specific ratios that can be calculated mathematically to ensure justice for women and other family members; (b) Fiqh An-nisā' as a branch of Fiqh that focuses on women's rights and obligations, provides a clear normative basis for various aspects of women's lives, such as the iddah period, maintenance, child custody, and protection during menstruation. This Fiqh is a deep and structured source of law in the context of Islamic law; and (c) state law in Indonesia, especially those that adopt Islamic legal principles such as the Compilation of Islamic Law (CIL), functions as a formal legal medium that integrates the provisions of fiqh an-nisā' into the national legal system. It enables consistent application of the law and provides legal certainty for women, while adapting to the social context and modernity.

Thus, the collaboration between mathematics, Islamic jurisprudence (fiqh an-nisā'), and state law demonstrates that seemingly disparate sciences can synergize in solving social and legal problems holistically. Mathematics provides tools for systematic analysis, Islamic jurisprudence offers moral and legal guidance, and state law formally enforces these rules. This integration is crucial to ensuring women receive fair protection and explicit legal provisions in a dynamic modern society.

## References

- Abdullah, M. A. (2014). Religion, science, and culture: An integrated, interconnected paradigm of science. *Al-Jami'ah: Journal of Islamic Studies*, 52(1), 175–203.
- Agha, S. M. H., Ullah, M. S., & Akhter, N. (2023). The Necessity and Significance of Hadith in The Light of Quranic Verses, Investigative Analysis. *Jahan-e-Tahqeeq*, 6(4), 674–684.
- Al-Khasyt, M. U. (2017). *Fikih Wanita: empat mazhab*. Ahsan Publishing.
- Alimah, S. (2021). *Analisis Kitab Risalatul Mahid Karya Masruhan Ihsan dan Relevansinya dengan Materi Fiqih di Madrasah Ibtidaiyah*. IAIN Ponorogo.
- Almubarak, F. (2018). Keadilan Dalam Perspektif Islam. *ISTIGHNA: Jurnal Pendidikan Dan Pemikiran Islam*, 1(2), 115–143.
- Asiyah, A., Febrini, D., Topano, A., Mustamin, A. A., & Hakim, M. A. R. (2024). Measuring the impact of Islamic values-based scientific literacy on scientific competency of madrasah teachers. *International Journal of Learning, Teaching and Educational Research*, 23(4), 476–496.
- Asmawati, R. U. (2021). *Pengaruh Pemahaman Santriwati Tentang Haid Terhadap Perilaku Keagamaan Di Pondok Pesantren Putri Ar-Roudloh Kota Kediri*. IAIN Kediri.
- Bans-Akutey, A., & Tiimub, B. M. (2021). Triangulation in research. *Academia Letters*, 2(3392), 1–7.

- Binti Abdullah, N., bin Abdul Aziz, A., Mustafa, W. A., Almusawi, M., & Hussein, A. H. A. (2023). Women's Health Diary: Tracker System for Menstruation, Intermenstrual, Ovulation, and Postnatal Bleeding Using Rules-Based Technique. *2023 3rd International Conference on Mobile Networks and Wireless Communications (ICMNWC)*, 1–5.
- Chasanah, S. N. R. (2021). *Peningkatan Pemahaman Fiqih Wanita Melalui Kajian Kitab Risalat Al-Mahid dan Implementasinya bagi Santri Kelas IV M Madrasah Diniyah Miftahul Huda Mayak Ponorogo*. IAIN Ponorogo.
- Critchley, T. (2018). *Antidotes for Healing the Human Body the Complete Version: Understanding the Root Causes of Sickness and Disease*. WestBow Press.
- Daulay, A. I., & Hakim, F. (2025). Kesetaraan Gender dalam Hukum Perkawinan Islam: Antara Idealitas Normatif dan Realitas Sosial. *Journal of Dual Legal Systems*, 2(1), 14–24.
- Donkoh, S., & Mensah, J. (2023). Application of triangulation in qualitative research. *Journal of Applied Biotechnology and Bioengineering*, 10(1), 6–9.
- Fadhilah, A. U. (2023). Women's Fiqih (Haid, Nifas, And Istihadhah) on Reproductive Health. *Proceeding International Conference on Religion, Science and Education*, 2, 1029–1034.
- Faizi, H. F. S., & Ali, H. S. (2024). The core principles of Islamic jurisprudence within legal theory: A comprehensive analysis. *Online Journal of Research in Islamic Studies*, 11(2), 57–72.
- Fauzizah, A., & Masruri, M. (2024). A Comparative Study of The Fiqh Approach to The Hadith on Menstruation. *RIWAYAH: JURNAL STUDI HADIS Учредители: State Islamic College of Kudus*, 9(2), 385.
- Feminia, O. (2025). *Penafsiran ayat ayat tentang haid dan keterkaitannya dengan kesehatan perempuan (Kajian Tafsir Tematik)*.
- Fitri, S. R., & Redi, A. (2024). Efforts for Legal Renewal in the Fulfillment of Women's Health Rights in Indonesia. *Journal of Social Science (JoSS)*, 3(12), 1998–2007.
- Gillani, S. H. A. S., & Farzand, A. (2024). Laws Regarding Family Inclusive of Marriage, Dowry, Custody, Divorce, Maintenance and Inheritance. *AL-IDRAK JOURNAL*, 4(1), 91–106.
- Indonesia, R. (2009). Undang-undang Republik Indonesia nomor 36 tahun 2009 tentang Kesehatan. *Jakarta Republik Indones*.
- Kamal, M., Zalikha, S., Wahdi, S., & Ikbal, M. (2019). Blood Women in Perspective of Fiqh Syafi'iyah and Medical Science. *Britain International of Humanities and Social Sciences (BloHS) Journal*, 1(2), 159–166.
- Kasim, T. S. A. B. T., Yaakob, S. F. B., & Razif, N. F. B. M. (2024). Family Influence on Female's Blood Education in the Context of Islamic Practice in Malaysia. *El-Ussrah: Jurnal Hukum Keluarga*, 7(2), 623–647.
- Khoirunnisa, K., & Hidayati, R. (2023). The Jurimetri Formulation of Court Decisions in the Division of Joint Property. *SMART: Journal of Sharia, Tradition, and Modernity*, 28–40.

- Komariah, N., & Nihayah, I. (2023). Improving the personality character of students through learning Islamic religious education. *At-Tadzkir: Islamic Education Journal*, 2(1), 65–77.
- Lubis, M. H. A., & Marpaung, Z. A. (2024). Alasan Pembuktian Tindak Pidana Perzinahan Dengan Saksi Berjumlah 4 Orang Laki-Laki Dalam Hukum Pidana Islam. *Justicia Sains: Jurnal Ilmu Hukum*, 9(2), 417–435.
- Manshur, A. Q. M. (2019). *Panduan Shalat an-Nisaa Menurut Empat Mazhab*. Republika Penerbit.
- Mappasessu, M., & Akmal, A. M. (2025). Studying Fiqh Based on the Quran and Hadith in the Modern Era by Revisiting the Methodology of Legal Istinbat. *Nuris Journal of Education and Islamic Studies*, 5(2), 151–167.
- Mihm, M., Gangooly, S., & Muttukrishna, S. (2011). The normal menstrual cycle in women. *Animal Reproduction Science*, 124(3–4), 229–236.
- Moon, M. D. (2019). Triangulation: A method to increase validity, reliability, and legitimation in clinical research. *Journal of Emergency Nursing*, 45(1), 103–105.
- Muchtar, A., & Sunhaji, S. (2022). Efforts to Erode Dichotomies Using Integrative Learning Models in Islamic Religious Education. *FONDATIA*, 6(4), 1162–1172.
- Musthofa, M. W. (2024). Building an Applicative Model of Integration-Interconnection of Mathematics and Islamic Sciences. *JRPM (Jurnal Review Pembelajaran Matematika)*, 9(1), 33–51.
- Ningsih, T., Purnomo, S., Mufliah, M., & Wijayanti, D. (2022). Integration of science and religion in value education. *IJORER: International Journal of Recent Educational Research*, 3(5), 569–583.
- Nugraha, I. S. (2024). Justice in Inheritance Distribution: Comparative Study of Islamic and Customary Law on Equal Distribution. *Indonesian Journal of Islamic Jurisprudence, Economic and Legal Theory*, 2(4), 1815–1829.
- Nukhman, N. N., & Osman, S. (2024). A Preliminary Study on The Need of Women's Fiqh Module at Rehabilitation Centre in Malaysia. *SALAM Digest: Syariah and Law Undergraduate Symposium*, 2(1), 195–206.
- Nurlatifah, L. (2020). Protection of women's reproductive health rights based on international law and regulation on laws in Indonesia. *Lampung Journal of International Law*, 2(1), 25–40.
- Nuroniyah, W. (2022). Menakar Ulang Diskursus Menstruasi: Kajian atas Aturan Puasa bagi Perempuan Haid dalam Fikih sebagai Upaya Menghapus Stereotype dan Menstrual Taboo. *Al-Manahij: Jurnal Kajian Hukum Islam*, 16(1), 59–76.
- Pratama, T., Muhammad, H., Syahmirwan, S., & Safarsyah, A. (2023). Managing menstrual cycle medication during hajj and fasting: juridical considerations. *Research Horizon*, 3(3), 172–181.
- Putri, M. Z. A., Nawawi, M. K., & Yono, Y. (2023). Hukum Talak pada Wanita Haid Menurut Empat Imam Madzhab. *As-Syar'i: Jurnal Bimbingan & Konseling Keluarga*, 5(1), 195–203.
- Rangkuti, A. (2017). Konsep keadilan dalam perspektif Islam. *TAZKIYA: Jurnal*

*Pendidikan Islam*, 6(1).

- Rudiana, R., Solehudin, D., Wasliman, I., & Sukandar, A. (2025). Integrasi Pendidikan Karakter Moderasi Islam dalam Kurikulum STEM di Sekolah Islam. *JIIP-Jurnal Ilmiah Ilmu Pendidikan*, 8(8), 9666–9676.
- Santos, K. da S., Ribeiro, M. C., Queiroga, D. E. U. de, Silva, I. A. P. da, & Ferreira, S. M. S. (2020). The use of multiple triangulations as a validation strategy in a qualitative study. *Ciencia & Saude Coletiva*, 25, 655–664.
- Santoso, F. S., & Batubara, I. (2024). The Concept of Justice in the Perspective of Islamic Law: A Comparative Study with Western Legal Philosophy. *At-Tasyrih: Jurnal Pendidikan Dan Hukum Islam*, 10(2), 410–421.
- Saputri, D. Y. (2024). *Pemahaman Santriwati terhadap Haid dan Istihadhah (Studi di Pondok Pesantren Mambaul Huda 43 Polos Sumberrejo)*. IAIN Metro.
- Schilbrack, K. (2018). Mathematics and the definitions of religion. *International Journal for Philosophy of Religion*, 83(2), 145–160.
- Setiawan, E. (2021). *Analisis Pasal 5 Dan 8 Undang-Undang Pkdrt Nomor 23 Tahun 2004 Tentang Hukum Kekerasan Seksual Dalam Perkawinan Ditinjau Dari Perspektif Hukum Islam*. UNIVERSITAS ISLAM NEGERI SULTAN SYARIF KASIM RIAU.
- Taber, K. S. (2013). Methodological issues in science education research: a perspective from the philosophy of science. In *International handbook of research in history, philosophy and science teaching* (pp. 1839–1893). Springer.
- Tohir, M., Maswar, M., Atikurrahman, M., Saiful, S., & Rizki Pradita, D. A. (2020). Prospective teachers' expectations of students' mathematical thinking processes in solving problems. *European Journal of Educational Research*, 9(4), 1735–1748. <https://doi.org/10.12973/EU-JER.9.4.1735>
- Wongkar, W., & Ekaputra, I. W. G. A. (2025). Abortion and Human Rights: An Analysis of Indonesian Legal Perspectives in Balancing the Right to Life of the Fetus and Women's Reproductive Health. *Journal of Law, Politic and Humanities*, 5(4), 2421–2428.
- Zazilatun, N. (2020). *Pemahaman Santri Tentang Haid Dalam Kajian Fiqih Wanita Karya Anshori Umar Di Pondok Pesantren Mahasiswa Al-Amin Ronowijayan Siman Ponorogo*. IAIN Ponorogo.