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BURYING THE UMBILICAL CORD IN INDONESIAN ISLAMIC TRADITION: BETWEEN LOCAL WISDOM AND STEM CELL UTILIZATION

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Abstract: This article discusses the practice of burying the umbilical cord in Indonesian Islamic tradition, which is an important part of the birth ritual. The burial of the umbilical cord not only has symbolic meaning but also reflects inherited local wisdom values. In the context of Indonesian society, this ritual is often complemented by various traditional ceremonies that demonstrate the relationship between life, health and the continuity of generations. In addition to cultural values, this article also explores the potential utilisation of stem cells derived from umbilical cords. Stem cells have significant medical applications, including in the treatment of various diseases. This research analyses how communities can utilise umbilical cord tissue not only as a spiritual symbol but also as a valuable medical resource. This opens up opportunities for dialogue between local traditions and innovations in medicine. With an interdisciplinary approach, this article invites readers to understand the importance of integration between local wisdom and scientific development. The findings are expected to provide new insights into traditional practices that are still relevant in the modern era and encourage people to consider collaboration between religious values, culture and medical advancements in their daily lives.

Keywords: Local Wisdom, Stem Cells, Umbilical Cord.

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A. Introduction

The practice of burying the umbilical cord is an integral part of the Indonesian Islamic tradition that has been passed down for centuries. This ritual is not just a symbolic act but contains deep spiritual meaning. In the community's view, the burial of the umbilical cord is believed to be a means of maintaining the newborn's relationship with nature and ancestors, reflecting the harmonisation between human life and the surrounding environment. This tradition places the umbilical cord as an important symbol in the continuity of life, which must be returned to the earth as a form of respect and gratitude to the Creator.

For many local communities, the act of burying the umbilical cord is also associated with the belief that it can bring protection and good luck to the baby on its journey through life. These beliefs are the result of a fusion between the Islamic teachings that spread in the archipelago and strong local customs, forming a unique and distinctive religious practice. Studies show that this ritual reflects the syncretism between Islamic teachings and local customs that have been internalised in the daily lives of Muslims in Indonesia, reinforcing an Islamic identity based on local wisdom. As such, these practices not only symbolise spiritual identity but also show how Islam in Indonesia can adapt to the local cultural context, resulting in strong and sustainable traditions (Rofiq, 2019).

In this research, the author will further explore how the practice of umbilical cord burial can be understood not only as a traditional ritual laden with cultural and spiritual significance but also as a potentially important medical resource in the development of modern healthcare. This tradition, which is deeply rooted in the lives of Indonesian Muslims, will be examined from an interdisciplinary perspective that includes religion, culture and science. Through this approach, the author seeks to understand how this sacred ritual can be linked to advances in medical technology, particularly in the utilisation of stem cells from the umbilical cord for the treatment of degenerative and regenerative diseases.

This research also highlights the importance of examining the relevance of local traditions amidst the rapid development of science and technology in the modern era. In this context, umbilical cord burial is not only preserved as part of cultural heritage but also considered in contemporary public health discourse. The integration of traditional values and medical innovation is crucial, especially for Indonesian Muslim societies that are rich in tradition and open to scientific developments (Rizvi et al., 2022).

As such, this research is not only expected to provide new insights into the importance of local traditions in a modern context but also encourage further discussion on the need for a balanced approach between cultural preservation and medical innovation. This integration has the potential to produce sustainable solutions in the effort to improve public health while respecting the cultural roots that have become part of the collective identity of Muslims in Indonesia.

B. Research Methods

This research uses a literature review approach as the main method. A literature review is a research method that focuses on the critical analysis and synthesis of various relevant literature sources, allowing researchers to explore a topic in depth through various academic viewpoints. This approach was chosen because there are a large number of previous studies that discuss both aspects of local traditions, such as the practice of umbilical cord burial in Indonesian Muslim culture, as well as the utilisation of stem cells from umbilical cords in the modern medical field.

By conducting a literature review, the author was able to analyse and compare various relevant research results, both about religious and cultural aspects, as well as from the medical and technological side. The sources used in this research include scientific journals, books, and research reports that have been published and indexed in reputable databases such as SCOPUS, SINTA, and DOAJ. Through synthesising the literature, this research aims to present a comprehensive analysis of the merging of local wisdom and medical innovation in the Indonesian context (González-Martinez et al., 2021).

In this literature review process, the author used content analysis techniques to identify patterns, themes and relationships between two main concepts, namely the tradition of umbilical cord burial and the potential utilisation of stem cells. The content analysis technique involved the selection of relevant sources, in-depth reading of available literature, and interpretation of key findings from previous research. Through this approach, the author was able to systematically organise information, identify trends in cultural practices and medical uses, and find links between local wisdom and modern technology. The content analysis approach not only allowed the author to evaluate the tradition of umbilical cord burial in the spiritual and social context of Indonesian Muslim society but also to contextualise the findings within a broader medical framework, especially in terms of stem cell utilisation. As such, this method provides a solid foundation for the research to understand how the integration between tradition and innovation can be applied holistically, providing new

insights relevant to the future of the public health field (Suwankhong & Liamputtong, 2014). This research adopts an interdisciplinary perspective combining cultural, religious and scientific studies to produce a comprehensive conclusion.

C. Results and Discussion

1. The Umbilical Cord Burial Tradition from a Scientific Perspective

This research produced several important findings related to the practice of umbilical cord burial in the Indonesian Islamic tradition and the potential utilisation of stem cells in modern medicine. From the literature review, it was found that the practice of umbilical cord burial has a deep spiritual meaning in Indonesian Muslim society. The ritual is seen as a symbol that connects human life with nature and ancestors and is often accompanied by prayers for the child's safety, luck and future success. The tradition reflects respect for the values of life passed down through generations and is an integral part of the life cycle of Muslim communities, especially in rural areas where customs are still strong.

The studies reviewed show that this umbilical cord burial ritual has been going on for centuries and is still practised in various parts of Indonesia. Despite the changing times, this tradition has survived and is considered important, especially in maintaining spiritual and social balance. The burial of the umbilical cord is often associated with efforts to ensure that the child grows well, is protected from danger, and receives blessings in life. This ritual is not only understood in a spiritual context but also as a reflection of the close relationship between local culture and Islamic teachings that peacefully acculturate in people's daily lives. In addition to the spiritual and cultural aspects, this study also found the potential utilisation of umbilical cords in the modern medical world, particularly stem cells. In a medical context, the umbilical cord stores stem cells that can be used for the treatment of various diseases, including leukaemia, immune system disorders and other degenerative diseases. In some countries, storing umbilical cords for medical purposes is starting to be practised as a preventive measure. This study opens a new discourse regarding the possibility of combining the tradition of umbilical cord burial with the utilisation of modern medical technology in Indonesia. This tradition, which is rich in local wisdom, if combined with science and technology, can provide wider benefits for public health.

Overall, this research emphasises the importance of further examining the relationship between local wisdom and scientific innovation, particularly in the context of Indonesian Islamic traditions. As the medical world continues to evolve, there is great potential to bridge the gap between tradition and technology while maintaining the cultural values that have become part of the identity of the Indonesian Muslim community (Said, 2015).

Furthermore, this literature review reveals the great medical potential of umbilical cords, especially the stem cells contained within. Stem cells from the umbilical cord have been widely recognised in medicine as an important resource for regenerative therapies. Various studies have shown that stem cells from the umbilical cord can be used to treat serious diseases, such as leukaemia, blood disorders, and various other degenerative conditions (Weiss & Troyer, 2006). The use of stem cells from umbilical cords is also considered more ethical and safe compared to the use of stem cells from other sources, such as human embryos, which has raised ethical debates in scientific research (Meiliana & Wijaya, 2014). Stem cells harvested from the umbilical cord have the distinct advantage that the harvesting process does not involve any risk to the life or health of the individual concerned. This makes umbilical cord stem cells a more acceptable option within the medical community and society at large.

In addition, stem cells from umbilical cords can adapt and develop into a variety of cell types, making them potentially useful in the treatment of several degenerative and autoimmune diseases. The presence of these stem cells also adds to the practical value of the umbilical cord burial tradition, as people can see that this ritual has not only a spiritual and cultural dimension but also a medical relevance that can benefit the health of individuals and society as a whole.

The importance of utilising stem cells from umbilical cords also has implications for public awareness of the importance of maintaining and respecting this tradition, as it has the potential to contribute to the development of medical science. By educating the public about these benefits, it is hoped that the practice of umbilical cord burial will not only be seen as a ritual but also as a preventive measure that can have a positive impact on health in the future. As medical science and technology evolve, the integration of local traditions and scientific practices can pave the way for new, more sustainable innovations. This suggests that the umbilical cord, in addition to its cultural and religious value, also has significant scientific potential (Gerdfaramarzi et al., 2024).

The study also found that although the utilisation of umbilical cord stem cells has not been widely practised in Indonesia, the potential to develop umbilical cord stem cell banks in Indonesia is great. Several hospitals in Indonesia have started offering umbilical cord banking services for future medical use. This represents the first step towards developing a medical infrastructure that can support the use of stem cells in the country. However, the level of public understanding of this potential is still relatively low. Many parents are still unaware that the umbilical cord, which is usually discarded after delivery, can be a valuable resource that can save lives in the future.

The research also highlights the importance of educating the Indonesian Muslim community on the medical benefits of stem cells that can be extracted from umbilical cords, as well as how the tradition of umbilical cord burial can be maintained without compromising potential medical opportunities. Effective education can increase public awareness of how they can contribute to saving lives and improving the health of future generations. For example, outreach programs involving community leaders and religious leaders can help explain that umbilical cord burial is not only a spiritual ritual but also a proactive step in embracing medical advancements.

Furthermore, a better understanding of stem cells from umbilical cords could change the public perception of this tradition, encouraging people to see it as a bridge between local wisdom and medical innovation. With these steps, it is hoped that the great potential of stem cells can be fully utilised, thus contributing to the improvement of public health and welfare in Indonesia. The integration of tradition and technology, if managed well, could be one way to address future health challenges (Walker et al., 2012).

2. Stem Cells and the Umbilical Cord: Between Tradition and Health Orientation

The discussion in this study highlights the complex interaction between Indonesian Islamic traditions and the development of modern science, particularly in the utilisation of stem cells from umbilical cords. Umbilical cord burial, which has become an integral part of birth practices in Indonesian Muslim societies, reflects a form of local wisdom that is deeply rooted in religious and cultural values. This tradition is not just a ritual but a symbolisation of hopes and prayers for the safety, luck and success of the newborn baby and his or her family.

The burial is believed to have a positive spiritual impact on the newborn and its family. Many parents believe that through this ritual, they are maintaining the spiritual bond between the baby and the ancestors while laying the foundation for a good future. In this sense, the burial of the umbilical cord serves not only as a physical act but also as a medium to express gratitude and hope to the Creator.

In addition, this practice is also a way for local communities to maintain a harmonious relationship between humans and nature, as explained in several literatures that examine the relationship between traditional rituals and the environment. This ritual reminds us of the importance of respect for nature and ecosystems, where the umbilical cord, as part of the human body, is returned to the earth. In this context, the burial of the umbilical cord serves as a reminder that humans are part of a larger nature and have a responsibility to maintain balance with the environment.

As science evolves, the utilisation of stem cells from umbilical cords offers a new perspective that integrates traditional values with medical innovation. Although the practice of umbilical cord burial is long-established, there is great potential to enrich this tradition with a scientific understanding of stem cells. This research emphasises the importance of creating a dialogue between local wisdom and modern medical knowledge, where the two can complement each other and benefit the community. As such, this research serves not only to document traditions but also to delve deeper into how these traditions can adapt and be relevant in the modern era. This integration between spirituality, culture and science is expected to raise public awareness about the importance of maintaining traditions while embracing beneficial innovations (Coffey & Brown, 2017). Although considered a sacred ritual, modern studies reveal that umbilical cord burial does not necessarily preclude the opportunity for medical utilisation of the umbilical cord, particularly in the context of stem cells.

The potential utilisation of stem cells from umbilical cords brings a change of perspective to this tradition. Stem cells have been identified as one of the most promising sources for regenerative therapies due to their pluripotent nature, which allows them to form a variety of cell types in the human body. This property makes stem cells from the umbilical cord particularly valuable in medicine, as they can develop into the cells needed to repair or replace damaged tissue.

Numerous studies have shown that stem cells from the umbilical cord can be used in the treatment of a variety of medical conditions, ranging from degenerative diseases to immunological disorders. For

example, stem cell therapy is effective in the treatment of leukaemia, where healthy cells can be re-produced to replace lost or damaged blood cells. In addition, studies have also shown that stem cells from the umbilical cord can help in the treatment of diseases such as type 1 diabetes and tissue damage from heart attacks.

In this context, the integration between the practice of umbilical cord burial and stem cell utilisation provides an opportunity to not only preserve tradition but also utilise existing resources for medical advancement. By saving the umbilical cord, the family not only continues the tradition but also contributes to a potential treatment that could be beneficial in the future. However, it is important to educate the public about this so that they can understand the dual value of the practice as a cultural heritage and as a medical resource that can save lives.

This shift in perspective also highlights the need to embrace and discuss the integration of tradition and innovation so that people can utilise scientific knowledge without losing sight of their cultural values. Hopefully, with the growing awareness of the benefits of stem cells, Indonesian Muslim communities can see umbilical cord burial not only as a ritual but also as an opportunity to participate in the advancement of science and public health (Wang et al., 2013). In this case, there is room to bring together the tradition of umbilical cord burial and the ethical use of stem cells, where the umbilical cord can be preserved or stored for medical purposes before being used in traditional rituals (Sankheangaew, 2021). Thus, tradition and science do not have to be in conflict but can complement each other in a mutually beneficial way.

However, a major challenge faced in integrating these two perspectives is the lack of public understanding regarding the medical benefits of umbilical cord stem cells. Many people are still unaware that umbilical cords can be stored for medical purposes, potentially saving lives in the future. This study identified that effective outreach and health education programs are needed to bridge this knowledge gap. The importance of discussing ethics and legality is also part of the education that needs to be done to the community. With an increased understanding of these two aspects, it is hoped that the community can accept and participate in the utilisation of stem cells in a way that is not only medically beneficial but also to their cultural and religious values. In Islamic tradition, the burial of the umbilical cord has a deep meaning, and any action related to the human body, including body parts resulting from birth, should be carefully considered. Therefore,

the practice of stem cell harvesting should be carried out with due regard to applicable ethical principles, such as informed consent from parents, as well as a clear understanding of the benefits and risks involved (Peberdy et al., 2018).

The legality aspect is also an important concern, given the medical regulations in Indonesia that govern the practice of stem cell collection and storage. Several regulations govern how medical procedures are performed, including provisions regarding who is authorised to retrieve and store stem cells, as well as the use of patient information in the context of research. The involvement of licensed hospitals and medical institutions in this process is crucial to ensure that the practice is not only safe but also compliant with applicable laws.

In addition, discussions on ethical aspects should involve all stakeholders, including medical practitioners, religious leaders, and the wider community. This is important to ensure that all religious and scientific perspectives are accommodated in the practice of harvesting and utilising stem cells from umbilical cords. With an inclusive approach, it is hoped that a broader understanding of how tradition and medical innovation can go hand in hand can be created without compromising the values that already exist in society. This literature review shows that clerical fatwas and medical regulations must be considered in developing a policy on umbilical cord banking in Indonesia.

In the context of integration between local wisdom and modern science, there is a great opportunity to create a holistic approach. Communities can utilise medical technology while still maintaining the tradition of umbilical cord burial in a way that is consistent with their religious beliefs. For example, some hospitals in Indonesia have begun to implement an umbilical cord bank system that allows families to save their baby's umbilical cord for medical use while still performing burial rituals according to local customs and culture. With this system in place, families do not need to feel trapped between maintaining tradition and utilising modern technology. They can do both simultaneously, reflecting the synergy between tradition and scientific advancement. It also creates an opportunity for the community to be informed and educated about stem cells and their benefits so that they better understand the importance of umbilical cord retrieval and storage.

This kind of integration is expected to not only strengthen the values of local traditions but also raise people's awareness of the

importance of medical innovation in maintaining long-term health. By combining the spiritual aspects of the practice of umbilical cord burial with the utilisation of stem cells, the community can see that tradition and science do not have to contradict each other but can complement each other. Communities that are more educated about the potential of stem cells from umbilical cords can make better decisions about their own and their children's health, including decisions regarding umbilical cord retention. In-depth knowledge about the benefits of stem cells in the treatment of degenerative diseases and immune disorders can help parents feel more at ease and optimistic about the future of their child's health.

In addition, this increased awareness may encourage more research and development in the field of stem cells in Indonesia. With strong support from the public and the government, Indonesia can make optimal use of this medical resource, both in terms of stem cell storage and utilisation. This will open up new opportunities in the medical world, which will not only benefit individuals but also society as a whole. Furthermore, collaboration between healthcare institutions, academics, and government agencies is essential to develop a framework that supports ethical stem cell research and application that complies with local norms. In this way, Indonesia can not only integrate tradition with innovation. Still, it can also become a pioneer in stem cell development in Southeast Asia, making a positive contribution to global health and the future of future generations. It is important to involve all stakeholders in this process, including community leaders, health practitioners, and clerics, so that all perspectives can be accommodated and a strong consensus built. In this way, the tradition of umbilical cord burial is not only preserved as a cultural heritage but also as part of a medical solution that is relevant and beneficial for Indonesian Muslim communities in the modern era. This can serve as an example of a broader integration of tradition and innovation in healthcare, not only in Indonesia but also in other countries with similar cultural and religious backgrounds.

D. Conclusion

The tradition of umbilical cord burial has strong spiritual significance for Indonesian Muslim communities, reflecting local wisdom that connects humans to nature and ancestors. This tradition has been going on for centuries and remains relevant in people's lives today. However, in the modern era, umbilical cords not only have symbolic and

religious value but are also scientific, especially in the context of regenerative medicine through stem cells.

The potential utilisation of stem cells from umbilical cords provides a new perspective on how Muslim communities can utilise umbilical cords for medical purposes without abandoning existing traditional values. The development of umbilical cord banks and health education programs can be a strategic step to introduce the medical benefits of umbilical cords to the community. This study also emphasises the importance of integration efforts between tradition and science, where modern technology can be applied while maintaining local traditions that are meaningful to the community. Thus, this study suggests the need for a holistic and participatory approach to supporting the health of Indonesian Muslim communities through the utilisation of stem cells from umbilical cords and the preservation of local traditions.

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