



A SCOPING REVIEW OF WET NURSING IN THE MUSLIM WORLD

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Abstract

The recruitment of wet nurses among Malaysians is increasing. This is due to the awareness on the benefit of breastmilk for infant's growth and protection against diseases. However, the consequence of breastfeeding in Islam is tremendous, that is, the milk-mother and the child she breastfed are now become as blood mother and child. This means that a new set of family tie is formed between the nursling and the wet nurse's family which needs to be addressed to avoid future problems such as health risk and incest if proper documentation and maintaining of family connection are not done. Since this phenomenon is quite new in the contemporary time, an understanding of this phenomenon is important to inform further action. Therefore, a scoping review was conducted to summarise and synthesise existing studies on wet nursing in the Muslim world. This is important to identify gap in literature on wet nursing in Islam. Thirty-nine articles which met the selection criteria were reviewed and classified according to the emergent themes. The themes were wet nursing from Islamic perspective; wet nurses and milk donors; history of wet nursing; experiences of wet nurses; breastmilk bank and milk donation; documentation of wet nursing; and father's role in wet nursing. This review found a huge gap in literature specifically on how both the wet nurses' and the nurslings' families stay connected; and what needs to be done in terms of documentation to ensure easy tracing of family line in the future.

Keywords: Breastmilk Bank, Breastmilk donation, Milk kinship, Scoping Review, Wet nursing

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INTRODUCTION

The health benefits of breastmilk to newborn babies and infants are well documented thus cannot be denied. Nutrition in breast milk is essential for growth and development of a healthy child provided that the child is exclusively breastfed. Exclusive breastfeeding means that the

child is fed with only breastmilk exclusively for the first six month of his/her life (WHO, 2017). Breastmilk helps develop a child's immune system for protection against respiratory infections, rotavirus and diarrhea, and life-threatening diseases (Orlando, 1995; Alimoradi et al., 2014; Borba, Sharif, & Shoenfeld, 2017). It contains all the nutrients needed by an infant such as protein to develop the infant's immune system like lactoferrin and cytokines; good bacteria for healthy gut; oligosaccharides for strengthening gut's protective barrier; and so many other essential nutrients for healthy development and growth (Galley & Besner, 2020; Walker & Iyengar, 2015; Dessi et al., 2018; Pronczuk, Moy, & Vallenas, 2004; Sarkar, 2004). What is more, breastmilk reduces child mortality rates and protects against child obesity (WHO, 2017). No wonder the World Health Organization (WHO) strongly suggests that mothers to exclusively breastfeed their infants up to six months and continue to breastfeed until the children reach two years old but as complementary diet. Rigorous breastfeeding campaign supported by WHO has increased exclusive breastfeeding from 38% in 2012 to 40% in 2016 globally. Data in 2019 for Southeast Asia showed that 57% of mothers exclusively breastfed their infant children.

Even though the health benefits of breastmilk are tremendous, but some mothers have difficulties in breastfeeding their infant children. Studies found various factors for discontinuing exclusive breastfeeding. Most common stated reasons for discontinuing breastfeeding were infant's hospitalization, maternal employment end of maternity leave, caesarean delivery, inadequate milk supply (Khasawneh & Khasawneh, 2017; Olang, et al., 2012; Chantry, et al., 2014; Chang, et al., 2019), lactation and milk-pumping problems (Odom, et al., 2013), primiparity, education level, fatigue due to breastfeeding, medical condition of mothers (Chang, et al., 2019), breastfeeding difficulties (Tengku Alina, Wan Manan, & Mohd Isa, 2013), return to work (Rahmah, 2011) were reported as the main reasons for discontinuing breastfeeding. Some mothers who have difficulties but insist and determine to exclusively breastfeed their infants resorted to get breastmilk from wet nurses. Wet nursing practice is not new in the Muslim world.

Wet nursing has been practiced since the pre-Islamic era until the advent of Islam. Prophet Muhammad PBUH himself had two wet nurses who were Thuwaibah and Halimah Al-Sa'diyyah. To date, more parents sought the service from wet nurses due to public awareness on the importance of breastmilk for baby's physical, psychological, and intellectual growth as well as for protection against diseases. WHO and UNICEF emphasize the importance of breastmilk to reduce breastfeeding infants' mortality by feeding them with mothers' milk as early as birth up to 6 months of age and continues up to two years of age. For mothers who failed to breastfeed their infants for whatever reasons, wet nursing is much better option compared to formula milk. This way, baby's life is saved by providing necessary and sufficient nutrients for the baby's growth which could prevent him or her from various health complications. This practice is mentioned in the Qur'an [2:233, 4:23, 22:2, 28:7, 28:12 31:14, 46:15, 65:6] whereby mothers are recommended to breastfeed their infants until they reach the age of 2 years. In fact, the Qur'an emphasises on importance of giving breastmilk to newborn babies and toddlers that the fathers are urged to find wet nurses for the babies if the mothers face much difficulties in breastfeeding the infant children.

However, the consequence for wet nursing in Islam is tremendous. The wet nurse, who is the woman paid to feed another woman's infant her breast milk, and the nursing, who is the

infant fed with wet nurse's breastmilk, are considered having the same relationship as mother and child thus establishes mahram tie. When this family tie is established without proper documentation, many problems would arise in the future such as incest. The prevalent promotion of breastmilk sharing in social media and the establishment of breastmilk bank presently in Malaysia raised some pertinent questions that need to be addressed. Questions like how Islam views this practice, how documentation is done, what is the implication of this practice, what can be learned from other Muslim countries, etc. The first step in answering the questions is by reviewing the existing literature. Since literature search in the open-source data base had not found any systematic literature review on wet nursing in Islam or the Muslim world, therefore, this scoping review was conducted. The main aims of this scoping review were to identify the types, scope and breadth of research done in this field; and to synthesize the studies by categorizing into groups. In doing so, gaps in the existing literature can be identified to inform further research.

RESEARCH METHODOLOGY

Scoping review was employed to examine the extent and scope of research reports on the topic of wet nursing in the Muslim world. Generally, scoping review is done to decide on the necessity of conducting detailed systematic literature review; to disseminate the summarized and synthesized research reports; and to identify gap in literature that needs to be further investigated (Arksey & O'Malley, 2005). Specifically, the purposes of doing this scoping review were to summarize the findings of studies done on wet nursing in the Muslim world and to identify what is still missing in literature on this topic. To assure the validity and reliability of this scoping review, a transparent and replicable five-stage methodological framework explained by Arksey and O'Malley was employed. A broad research question was formulated to guide literature search; then relevant articles were selected; data from the articles was tabulated before summarizing and synthesizing the data; and finally, the findings were reported and disseminated. The research question asked to guide literature search was "Which existing studies provide information on wet nursing in the Muslim world?". Therefore, the selection criteria for article acceptance were studies conducted in the Muslim world and from Islamic perspective. In addition, only articles written in English and Malay language were accepted.

Table 1: Number of articles located by databases using the specified search terms

Database	Search Terms	Preferences	Number of papers found
Google Scholars	Wet nurse in Islam	Open source, and related to the topic	32
	Wet nursing		
	Anak susuan		
Oxford Journals	Ibu susuan	Open source, and related to the	2
	Wet nurse in Islam		

ProQuest	Wet nursing	topic	1
	Wet nurse in Islam	Open source, and related to the	
	Wet nursing	topic	

The literature search was done in the following databases: Google Scholars, Oxford Journals, ProQuest, Science Direct and SCOPUS. To locate the biggest number of relevant articles, the search terms used were “wet nurse in Islam”, “wet nursing”, “*anak susuan* (nursling)” and “*ibu susuan* (wet nurse)”. To locate the most recent articles, the second search was done with a custom range limited from 2016 to 2021. References from open sources were chosen as it is convenient to be accessed, easy to cross check by others, more transparent (good for validity and reliability) and because of economic reason. Initial search for articles published in years ranged from 2016 to 2021 yielded 4150 articles from Google Scholars, 286 articles from Science Direct, 576 articles from SCOPUS, 983 from Oxford Journals and 3429 articles from ProQuest. However, only 32 articles from Google Scholars, 2 articles from Oxford Journals, and 1 article from ProQuest met the selection criteria. Science Direct and SCOPUS located three and two articles respectively, but they were duplicates. Table 1 shows the final number of articles selected for review.

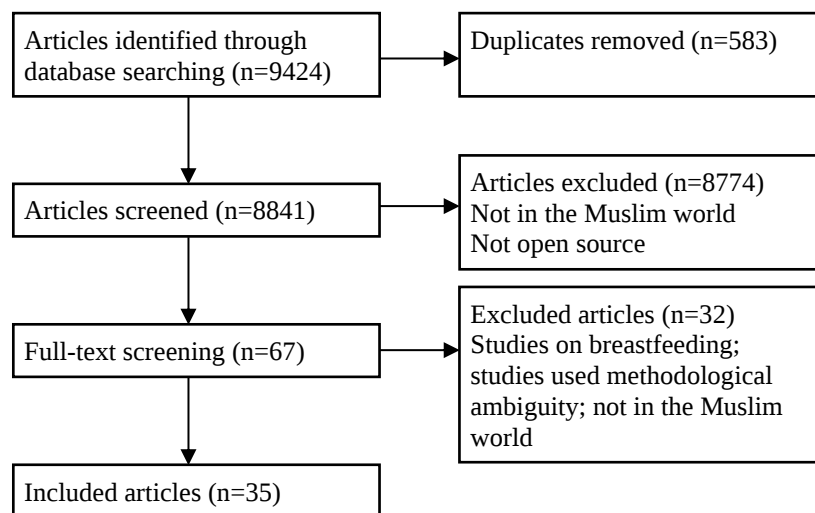


Fig 1. PRISMA flow diagram for process of article selection.

Data Analysis

This review employed both quantitative and qualitative data analysis. Quantitative was used to count the total of articles according to the year they were published, research designs and methodology, and number of participants. Since this review was guided by a broad question, qualitative data analysis was not guided by predetermined themes. Data gathered from the articles were tabulated and grouped together. Then, the emergent themes were named accordingly. Table 2 shows the summarisation of the reviewed articles.

Table 2: Summarisation of the reviewed articles

No	Authors/year	Objective	Data search strategy	Results
	Che Abdul Rahim et al. (2021)	To investigate and determine the practice of wet nursing among Muslim mothers in Selangor	Questionnaire survey Respondents were 100 women who had breastfed another child	42% respondents had at least breastfed one someone else's child 3% respondents had nursed 7-10 other children 21.5% were breastfed less than five times, 78.5% breastfed less than five times The respondents had breastfed 237 children
	Bouzenita and Hussain (2021)	To investigate the impact of non-disclosure of milk parents	Literature review	Highlight the meaning and importance of nasab (descent) in Islamic law, under consideration of the Higher Objectives of Shari'a, and explanation of some related legal rules.
	Hamjah et al. (2021)	To determine milk mothers' knowledge about the legal implications of wet nursing and understand the factors influencing the practice	Questionnaire survey Respondents were 100 women who had breastfed another child in Selangor.	Majority of respondents knew the law on wet nursing especially on marriage, conditions, and method of feeding. Majority of them had limited understanding on laws relating to nasab (lineage), guardianship and inheritance involving the milk child. Factors for wet-nursing practice were to help mothers who do not have enough breastmilk (92%), having surplus breastmilk (84%), child's mother could not breastfeed for health reasons (73%), and as a source of income (1%).
	Bensaid (2021)	To examine Muslim's religious, moral, and spiritual understanding of breastfeeding as a basic	Literature review	Islam places high moral and spiritual emphasis on infant breastfeeding. Prophet Muhammad is reported to have described the act on an occasion drew attention to the continuity of wet nursing in the afterlife. Muslim jurists maintain that the responsibility of ensuring

No	Authors/year	Objective	Data search strategy	Results
		natural right and to discover Islamic law and ethics on breastfeeding and wet nursing		conditions for breastfeeding rests with the father. Fathers are allowed to contract a wet nurse in cases when the biological mother is unable to breastfeed.
	Dogan (2021)	To analyse the practice of breastfeeding and wet nursing in the late Ottoman and early Republican period in Turkiye	Literature review	The study found wet nursing was an occupation and a tool to gain dominance over women because they were forced to stay home and being domesticated. Wet nursing was encouraged to produce healthy citizens (to be soldiers) during the Ottoman time.
	Mohamad Safir, Salleh, and Mohamad Safir (2020)	To discover importance of managing wet nursing documentation	Literature review and interview with 5 respondents	Indicated the need to document breastmilk sharing to control breastfeeding lineage. Provide recommendations on documentation processes and procedures including collaboration between Religious Department and hospitals
	Shamsu and Mhanna (2020)	To discover Islamic ruling on kinship by breastmilk and its implication.	Literature review	Forbidden marriage by kinship milk was a result of breastfeeding the child within the first two years old and agreed by the four school of thoughts. Breastfed must be up to five times. Highlighted wet nursing requirements, characters of wet nurses according to various scholars, and number of witnesses required according to four schools of thought.
	Mohamad Safir, Mohamad Safir, and Salleh (2020)	To discover the practice of documentation of breastfeeding among nursing	Literature review and interview with breastfeeding mothers and nursing	No proper documentation except to exchange birth certificates. Milk mothers never met milk children—acted just as milk suppliers. All participants understand the

No	Authors/year	Objective	Data search strategy	Results
		and breastfeeding mothers	mothers	establishment of milk kinship with both parents, but some were confused on the mahram relationship with other family members which, the numbers of feeding for the kinship to take effect and other important legal implications of wet nursing to both families.
	Mehrpisheh et al. (2020)	To examine breastfeeding from the perspective of the Qur'an and Islam and compared with the obtained scientific findings	Literature review	Quranic exegesis of the verses on breastfeeding and wet nursing as well as Hadith on the practice of wet nursing and breastfeeding Highlight scientific findings on the significance of breastmilk Witnessing and confession are instruments introduced by the Syariah of proving breastfeeding
	Muda and Ahmad Nazri (2020)	To investigate concept of human milk donation and milk kinship in Islam	Literature review	Discuss how human milk sharing initiative can be successfully established in Muslim Communities and Islamic Milk kinship: forbidden marriage, need to know from whom and to whom milk sharing.
	Daud et al. (2020)	To examine the jurists' and the Islamic scholars' debate on wages to a woman who breastfeed their biological as well as non-biological child.	Literature review	Breastfeeding wages: Hanafi and Zahiri – not entitled during marriage or talak raj'ie. Maliki entitled only on non-commoners. Shafie and Hanbali- mother entitled in marriage or divorce. Period of Eligibility BF wages: 2 years. Payment (wages) rate: not specifically mention in Islamic law—based on mutual agreement. Delineated the milk kinship family lines
	Marinelli (2020)	To investigate the role of wet nurse as	Literature review	Lowering infant morbidity and mortality rates by human milk. Donor milk banking is needed to

No	Authors/year	Objective	Data search strategy	Results
		infant's life saver		save lives.
	Daud et al. (2020)	To examine the Islamic perspective on the need of and proposed a Shariah Compliant Human Milk Bank	Literature review	Legal aspect of wet nursing and breastmilk sharing 1. Mahram by breastfeeding 2. Islamic scholars' opinions regarding the establishment of human milk bank (HMB) in Malaysia -Establishing Shariah-compliant human milk bank – The Malaysian Context: SCMBM is a human milk bank which complies with the Shariah Family Law (Fiqh al-Munakahat) -Proposed Model Shariah-Compliant Milk Bank Model (SCMBM) which met the conditions explained the Shariah Family Law (Fiqh al-Munakahat)
	Palma and Palma (2020)	To investigate the religion, persecution, and ideology of breastfeeding and wet nursing around 17 th century.	Literature review	Exposed historical documents advocating maternal breastfeeding during early 17 th century and de Godoy's hostile arguments against wet nurses from religious background to protect children from crypto-Jews wet nurses, that is, Spanish Jews forced to covert to the Catholic faith, yet continued to practice Judaism in secret; and as a reaction against the Islamic concept of milk kinship (Rada).
	Daud et al. (2019)	To investigate the importance of breastfeeding for both child and mother according to the perspectives of Islam.	Literature review	The review revealed the importance of breast milk for a baby's health to prevent a child and a mother from being inflicted with any diseases. highlight that breastfeeding is not only significance according to science but also because it fulfils the <i>syarak</i> requirements.

No	Authors/year	Objective	Data search strategy	Results
	Mohamad Safir, Mohamad Safir, and Salleh (2019)	To examine the practice of wet nursing in the past by the prophet Muhammad himself in comparison to breastfeeding today	Literature review Interviews (Food science officer, wet nurse, and nursling)	History of Prophet's Muhammad breastfed by Halimah and the relationship with her children Provision of breastfeeding in Islam - prohibition of selling and buying - wages and payments for breastfeeding and wet nursing - different between breastfeeding culture in village and town
	Azmi (2019)	To investigate the Prophet's early life in <i>sirah</i> literature.	Literature review	Prophet Muhammad was being wet nursed by Halima, and he kept milk kinship strong between his milk mother, her children and him.
	Munjin and Kamaludin (2019)	to discover in-depth the prophet Muhammad's method and the impact of social system to life	Literature review	Exposes the economic history of women who lived in the mountains who were working only as wet nurses for the children of the Mecca conglomerate, as was usually done by Halimah al-Sa'diyah and others.
	Mohamad Safir et al. (2019)	To discover and propose wet nursing documentation database in Terengganu to manage wet-nursed children's data	Interview with respondents	Muslims in Terengganu that had wet-nursed children were not recording and documenting the data using the right method. Need to establish a division in managing wet-nursing documentation that is supervised by a competent consultant. Propose wet nurse certificate or affidavit or another official document—e-anak susuan or e-as
	Dimon et al. (2018)	To identify the awareness level of the Muslims society as represented by the Muslim community in Selangor; on rulings	Questionnaire Survey method involving 400 respondents in three districts which were Hulu Selangor, Klang, and Sepang.	While Muslim community in Selangor has very good understanding and awareness on rulings regarding breastfeeding in Islam and its effect, but a minority of them did not know the establishment of milk kinship between the child and the milk mother's family lines; as well as

No	Authors/year	Objective	Data search strategy	Results
		regarding breastfeeding and its effects to 'awrah, lineage, and marriage		other legal issues on inheritance.
	Azmi (2018)	To explore he narratives of Prophet Muhammad's early life, with special focus to his period with Halimah al-Sa'diyyah and analyse the use of Quranic reference in the narratives.	Literature review	Described Prophet Muhammad's early life and how he ended up with his wet nurse, Halima. -After grown up, married Khadija, Halima asked the Prophet for help because of the drought in her homeland which brought famine and starvation. He then gave 40 lambs and camel with a howdah to help her.
	AlHreashy (2018)	To discover of the characteristics, benefits, and challenges in the practice of wet nursing across different cultures.	Literature review	The needs for evidence-based guidelines for non-maternal nursing across various social context and clinical scenarios. Elucidated ideal physical, psychological, and social characteristics of wet nurse. Found challenges faced in wet nursing including health risks, psychological and social risks, cost, religious-cultural difficulties, infant neglect by biological mother and problems of milk expression methods.
	Ergin and Uzun (2018)	To determine Turkish women's knowledge, attitudes, and behaviors on wet-nursing, milk sharing, and human	Questionnaire Survey method Samples were 240 married women, aged 15-49 years old, given birth within 5 years	12.5% women had a wet nurse 8.7% wet nursed babies before 7.2% women's children had a wet nurse 80.9 and 78.3% were willing to do wet nursing and milk sharing. Only 19.1% willing to donate to milk bank Wet nursing decreased over the

No	Authors/year	Objective	Data search strategy	Results
		milk banking in a primary care setting located in a semi-rural area.		years in Turkey Most of women were willing to become wet nurses or to share breastmilk if needed, but they are hesitant to donate their milk to human milk banks, mostly due to religious concerns.
	Yılmaz et al. (2018)	To determine the knowledge, attitude, and practices of mothers about wet-nursing and human milk banking in Kayseri, Turkey.	Questionnaire Survey method Population was 4 community health care centers in Kayseri Province. Involving 614 participants.	88.9% heard of wet-nursing, 10.9% had a wet-nurse of her own, 5.2% had a wet nurse of her child, and 5% had been a wet nurse of another child, majority not heard of milk bank and did not know its purposes and services. Half of them were willing to donate breast milk to the human milk bank.
	Ghaly (2018)	To examine challenges regarding milk bank and to propose human milk bank in Muslim world	Literature review	Reveal 3 aspects in establishment of milk kinship: 1. Identity of wet nurse is known 2. Milk reached to baby's stomach, 3. Baby's age is less than 2 years old. Highlight problems in milk bank Present strategies to establish human milk bank.
	Senol and Aslan (2017)	To determine opinions of women about human milk donation and human milk banking	Questionnaire Cross-sectional survey The sample included 231 married woman giving birth at least once in Turkey between January and April in 2015.	The study found 50% of women accepted human milk donation and 58% of the women stated they wanted to donate their human milk if milk banks were launched; 45.9% of the women thought otherwise since it is against religious rules; 23.6% thought it had a risk of infectious diseases. The mothers who accepted giving their milk to another woman's baby and someone else's milk to their own baby. Majority had positive attitude but a small percentage of them were concerned about transmission of infectious diseases and religious

No	Authors/year	Objective	Data search strategy	Results
	Saari et al. (2016)	To examine the historical aspects on how wet nursing began and survived the times and briefly look at it from the perspective of Judaism, Christianity, and Islam.	Literature review	rulings Found that wet nursing was a form of occupation and a form of welfare practice through donation and sharing of mother's milk. Found as a common practice in Islam, Judaism and Christianity. Factors for wet nursing services: social class; occupation; maternal debility; family and friendship ties, myths, and taboos. Revealed criteria for ideal wet nurse including skin color and condition and size of breasts; the quality of breastmilk determined through color, odor, texture, etc.; healthy eating habit; good personality; good moral behavior.
	Bawany, Milhan, and Padela (2016)	To investigate Muslims awareness of the Islamic bioethical perspectives on human breast milk banking	Literature review	Highlight the consequence of milk sharing and milk bank on the unbreakable milk kinship supported by Quranic verses, Hadith and scholars. Even though breastmilk could save lives, implementation in the Muslim world should be done with cautious. Proposed milk sharing whereby limited numbers of milk donor are allowed, no mixing of their milk, marked with donor's ID, donors and infant parents know each other.
	Can et al. (2014)	To discover breastfeeding and milk-sharing practices of the community and to reveal their views on wet nursing	Questionnaires Cross-sectional survey 500 mothers in Turkey	The study found that majority of the respondents knew about wet nursing but only 17% of them had wet nursed others' children who were their blood relatives (76%). Reasons for using wet nurse's service were mothers had insufficient breastmilk (63%); child's mother died or sick or pregnant (21%); tradition (11%); and their own children refused their

No	Authors/year	Objective	Data search strategy	Results
				mothers' breastmilk. A small minority (15%) of respondents had given their infants to be wet nursed by their relatives' children (57%) because they could not produce enough breastmilk (54%); were sick (20%); followed tradition (15%) and their babies refused their own milk (12%). A slight majority agreed that wet nursing is beneficial to the child and good deed performed by the wet nurses. But 66% thought that wet nursing was unfair to their own children and 35% said that it was forbidden by religion.
	Bayyenat et al. (2014)	To identify Quranic verses that mentioned breastfeeding and wet nursing	Content analysis	Al-Quran: Chapter 2: 233 Chapter 46:15 Chapter 31:14 Chapter 4:23 Chapter 65:6 Chapter 22: 2 Chapter 28:7 Chapter 28:12 Chapter 41:53
	Salleh, Daud, and Man (2014)	To examine issues related to wet nursing and Islamic rulings regarding the establishment of milk kinship	Literature review	Highlighted the issues of documentation that could be resolved by the National Registration Department to provide evidence of milk kinship. This is in line with the maqasid al-Shariah as "Hifzu al Nasl" (protection of lineage) and to avoid incest or marriage between milk siblings.
	Ghaly (2012)	To examine the fatwa of al-Qaradāwī regarding milk bank and milk donation.	Literature review	Revealed 3 pillars of wet nursing (arkan al rada): 1) wet nurse (murdi') is known. 2) the milk (laban) reached the baby's stomach at least 5 times satiated. 3) the nursling (radi') is below 2 years old. Al-Qardawi ruled that only direct

No	Authors/year	Objective	Data search strategy	Results
				breastfeeding instituted milk kinship. Thus, milk bank is allowed because the wet nurses are unknown and bottle feeding is used. Milk bank is prohibited in Malaysia to avoid the problem of determining the lineage. Islam recognizes that breastfeeding is children's right, but mother is not compulsory to breastfeed. Husband's right is to prohibit the wife from breastfeeding other's child. Husband's right has no right to prevent his wife to breastfeed their children. The milk bank establishment is to (1. Collect milk 2. Storage milk) but Malaysia pronounced it to be haram. But scholars have differences of opinion regarding milk bank.
	Daud et al (2012)	To discover pillars and rights to breastfeed in Islam and on the issues of establishing milk bank in Islam	Literature review	
	Shaikh and Ahmed (2006)	To discover practices of breastfeeding and wet nursing from Islamic perspective	Literature review	In wet nursing, the author stated that Prophet Muhammad instructs Muslim to protect their children from drinking the milk of "adulteresses and the insane" and considers their milk "infectious". Found that the potential of human milk in infecting disease transmission was recognized long before modern-day research and virology.
	Al-Naqeeb et al. (2000)	To investigate the significance of milk donation to save life and propose milk donation and milk bank that is consistent with Islamic	Clinical data from study	Revealed the importance of breastmilk to save infants' life according to health experts. Shared procedures of breastmilk donation and milk bank implemented in Kuwait. Doctors discussed clearly with mothers before they decide to take donated milk including meeting with the milk donor and

No	Authors/year	Objective	Data search strategy	Results
		rulings		explanation on the establishment of milk kinship to both mother of the child and the milk donor.

FINDINGS

The findings of this review are presented in the following sections starting with the year of publication followed by research designs and methodologies used to conduct the studies and the total number of participants involved in the studies. The summarised data were synthesized and presented according to themes.

Year of Publication

The researcher reviewed and recorded all journals published from 2016 to 2021. However, due to relevance to the topic, the researcher added several articles taken starting from 2000. One article was published in 2000 and another article in 2006. Three articles were published in 2014, two articles in 2016, one articles] in 2017, six articles in 2018, and five articles in 2019. The greatest number of articles were published in 2020 with 9 articles and finally in 2021, 5 articles selected to be reviewed. Based on the data, there was an increasing trend from year 2000 to the last 5 years. This shows that the interest in studying wet nursing phenomenon is gaining momentum every year.

Table 3: Year of publication and number of articles

Year	2000	2006	2012	2014	2016	2017	2018	2019	2020	2021
<i>N</i>	1	1	2	3	2	1	6	5	9	5

Research Methodology and Participants

The biggest number of articles, which were fourteen, reported studies employing content analysis to critically examine existing literature especially on the topic of wet nursing from Islamic perspective. Seven articles reported studies using cross-sectional survey to collect and analyse data. Historical method was used by studies reported in five articles. This method was used to examine the history of wet nursing before and after the advent of Islam as well as wet nursing in other cultures. Two studies used qualitative exploratory study to gauge the participants views on wet nursing and the issues of milk bank and documentation. Another three articles reported studies employing philosophical analysis to argue for wet nursing, establishment of milk bank and method of documentation. Two studies conducted need analysis to collect evidence for the need of wet nursing documentation; one study employed Quranic exegesis method to interpret Quranic verses on wet nursing; and one article reported a case study to examine and provide reasons for the breastmilk donation. Table 3 shows the number

of articles which reported studies employing the eight methods of research. A total of 1539 mothers and 80 fathers were involved in the reported studies. As for the wet nursing mothers, 382 of them participated in these studies. There were studies which included 201 women and 199 men to gauge their views and knowledge on wet nursing. A study interviewed an expert in Islamic jurisprudence and an expert in food science to discover the importance of and rulings on wet nursing.

Table 4: Research methodology reported

Research Method	Survey	Content Analysis	Exploratory Study	Philosophical Analysis	Need Analysis	Historical	Qurani c Exegesis	Case Study
<i>N</i>	7	14	2	3	2	5	1	1

History of Wet Nursing

Wet nursing is an age-old practice throughout the ancient times which had significantly reduced in the modern times due to the availability of breastmilk substitute, that is, the invention of formula milk for infants and toddlers so much so that WHO and UNICEF have to launch a massive campaign on the importance of breastmilk and breastfeeding. Historical records reveal that breastfeeding and wet nursing was a tradition practiced by the Arabs since before the advent of Islam where parents and immediate families would seek good wet nurses from the rural areas to breastfeed their infant children. This is because the Arabs believed that people from the rural areas were free from city's pollution environmentally and socially to ensure that their children would receive high quality breastmilk and upbringing. In fact, wet nursing was historically a vocation for certain women in the Arab East, and it was already recognized as a culture (Munjin & Kamaludin, 2019; Daud et al. 2020b; Azmi, 2019; Dogan 2021).

So too with the upbringing of Prophet Muhammad; his grandfather had sent him to rural area to be breastfed by a wet nurse. But before that he was breastfed by another woman. Halimah Al-Sa'diah Binti Abu-Dhu'ayb (from the tribe of Bani Asad, this Bani was famous for breastfeeding) and Thuwaibah were recorded as wet nurses of the Prophet Muhammad when he was a child. The records of Prophet Muhammad's early life on wet nursing and his wet nurses in hadith and history books were analysed and reported in the five articles selected in this review (Safir et al., 2019, Azmi, 2019; Munjin & Kamaludin, 2019, Bensaid, 2021; Bawany et al., 2016). One article reported the practice and characteristics of wet nursing in history in both Muslim and non-Muslim world (Saari et al., 2016) while two more articles presented a historical comparison between Islam and other religions and ancient perspectives (Palma & Palma, 2020). Another article portrayed how Prophet Muhammad served his nursing mother after adulthood (Azmi, 2018). But we still do not have a clear picture and good understanding of how wet nursing is being practiced in the Muslim world presently.

Wet Nursing from Islamic Perspective

All articles reviewed in this paper highlighted the importance and benefits of breastfeeding according to findings reported by scientific research in terms of nutrients required by the child for her or his physical as well as psychological and social growth and development. As for Muslims, the Quranic injunction to breastfeed a child indicated the benefits of breastfeeding and breastmilk. Three articles identified and interpreted eight Quranic verses on breastfeeding and wet nursing (Ulfat & Ahmed, 2006; Bayyenat et al., 2014; Mehrpisheh et al., 2020). The verses strongly recommend mothers to breastfeed a child exclusively for the first six month and to continue breastfeeding until the child reach two years old. If a mother refuses to breastfeed or encounters any kind of challenges that hindered her from breastfeeding, the father is responsible to find a wet nurse to ensure that the child is provided with the best food for his or her physical and psychosocial health (Islam et al., 2018; Ghaly, 2018; Bawany et al., 2016; Bayyenat et al., 2014; Daud et al., 2012). Because of this injunction, some scholars posit that breastfeeding and breastmilk is the right of a child thus, the duty of the parents (Dimon et al., 2018; Bensaid, 2021).

However, in Islam, the impact of wet nursing is the establishment of milk kinship between the involved parties; thus, the issue of '*nasab*' was mentioned in all 37 articles either briefly or comprehensively. Scholars examined this phenomenon thoroughly to provide clear understanding to guide theory and practice. In Islam, the consequence of wet nursing is the establishment of milk kinship between two groups: first, the suckled child's family lineage which includes siblings of the wet nurse (aunts and uncles), her biological children, her grandchildren, and her parents and their siblings; and second, the parents of wet nurse's husband and their siblings, wet nurse's husband's siblings, his children from previous wives, and his grandchildren (Daud et al., 2020b; Ghaly, 2018). Because of the family milk kinship is formed with the practice of wet nursing, the decision to donate breastmilk and to allow another woman to breastfeed a child should be made carefully.

Ghaly (2012; 2018) discussed three pillars of wet nursing that must be met for the milk kinship to be legal and binding. The pillars are the mother, the milk and the nursling. The identity of the wet nurse must be known and in the case of more than one wet nurses involved, the one who gives more milk is considered as milk mother. However, if both wet nurses give equal amount, then both are considered as milk mothers. The breastmilk must reach the baby's stomach by direct suckling, using cup or baby's nostrils at least five times; some scholars said the baby must be fed ten times and some said one time. The baby or nursling must be less than two years old. Issues revolving around wet nursing in Islam are legal issues such as sharia law and duties, prohibited marriage, earnings from wet nursing, and other legal issues.

Wet Nurse and Milk Donor

A wet nurse is a woman who is paid or willing to feed another woman's infant her breast milk. Two articles explained the requirements to be a wet nurse which are the wet nurse agrees to perform her work with her husband's approval and she has the consent of the child's father to appoint her as his child's wet nurse (Shamsu & M. Mhanna, 2020; Safir et al., 2020). Islam is particular in the selection of a wet nurse. She must be an identified Muslim woman, intelligent,

good-natured, healthy, non-smoker, pious, wise, non-alcohol consumer, and free from medication, drugs and hazardous illnesses such as HIV, Hepatitis B & C, syphilis, leukemia viruses, tuberculosis and others (Mehrpisheh et al., 2020, AlHreashy, 2018, and Daud et al., 2019). Furthermore, 8 studies concluded other ideal characteristics of a wet nurse such as being at the ages of 25 and 40, well-known, religious, having decent demeanor, knowledgeable through having given birth, and in excellent physical health, rather than one who has poor traits indicated by eating forbidden foods, being a dumb woman, and being unhealthy (Mehrpisheh et al., 2020; Shamsu & M. Mhanna, 2020; Al-Hreashy, 2018; Saari et al., 2016; Al-Naqeeb, 2000) which may affect the baby's brain growth and behavior development (Daud et al., 2019; Saari et al., 2016).

A wet nurse must be compensated by the father of the child for her service from day one until wet nursing ended (Bensaid, 2021; Daud et al., 2020b; Salleh et al., 2014). The amount and when the wages to be paid is based on mutual agreement and the current practice of a particular culture. Should there be any dispute regarding the wages, both parties can bring it to the court (Daud et al., 2020b). In addition, Daud et al. also expounded the issue of wages to be paid to the mother. The Quran specifically mention that father is obligated to pay the mother of his child wages for breastfeeding in the case of divorce. Regarding wages to the mother, according to Hanafi school, mother is not entitled to wages during marital contract. Whereas according to Maliki school, if the mother is a commoner, then she is not paid for breastfeeding but if she is from higher social status, she must be paid. Shafi'e and Hanbali schools' rule that mothers are to be given wages for breastfeeding. All fiqh schools agree that mother must be paid wages if she is divorced; and in the case the husband died, her late husband's family must pay the wages.

Milk Bank and Milk Donation

The reviewed articles revealed that breastmilk is necessary in case of emergencies to save live especially premature babies. Moreover, some mothers who are working, sick, or have other problems such as terminal illness, need continuous supply of breastmilk for their babies (Yilmez et al., 2014). Therefore, many proposed the establishment of human breast milk bank in the Muslim world (Daud et al., 2020a; Naqeeb et al., 2000; Ghaly, 2018; A. Nazri & Muda 2020). However, it is feared that the mixing of breastmilk from different wet nurses will cause a child to have many breastfeeding *mahram* secretly among the communities which could lead to serious problem of family lineage (Shamsu & M. Mhanna, 2020). Sadly, research showed that a minority of people were unaware that their descent was now expanding due to adoption and the non-disclosure of the identity of breastmilk donors (Bouzenita & Hussain, 2021). Therefore, the establishment of Islamic breastmilk bank should consider the three pillars of wet nursing. Ghaly (2012) examined the ruling made by al-Qaradawy and other scholars regarding the establishment of milk bank. Al-Qaradawy ruled that milk bank is legal for the following reasons. First, the suckling must be direct suckling from the wet nurse's breast to actualize the meaning of motherhood. Since babies are fed from cups or milk bottles or through nostrils, therefore it does not fit the definition of motherhood. Second, the identity of milk donors as well as the amount of milk given to the baby are unknown, therefore the first pillar is not met. Third, he argues that Islam is based on leniency and easiness and to determine the identities of

milk donors would be difficult. Other majority of scholars rule that milk bank is prohibited because of the following reasons. First, human milk can easily be found from relatives and neighbours thus the identities of the wet nurses can be known. Second, the methods of feeding can be different if the milk reaches the baby's stomach. Third, it is absurd to create doubtfulness regarding the identities of wet nurses just to make the milk bank legal when there are ways to create certainty. Fourth, in terms of family lineage, they chose to be cautious instead of to be lenient. This is supported by the hadith on the Prophet divorced a couple after they found out that they are milk siblings even though they have not provided strong evidence of being milk siblings.

To solve this issue, Ghaly (2018) suggested that a baby is given milk from three to five donors only; the identities of the donors are known and made available; to maximize the number of donors so that each baby can only get at the most, four feeding from one donor. The fatwa made by the Federal Territory mufti also strictly stipulated the construction of milk banks (Bawany et al., 2016). Daud et al. (2020a) suggested the establishment a Shariah Compliant Human Milk Bank (SCMBM). The criteria are the same as suggested by Ghaly (2018) except they suggested added stringent ones which are: the milk is for emergency cases of premature babies to save live; mutual approval from both the donor and her husband and they are given the option to establish milk kinship or not; the donor's milk is approved by Muslim health care professional; a certificate will be issued to both parties if they decided to form milk kinship when the requirements are met. In addition, the two families must know each other and keep in touch.

Documentation

Mahram issues can be resolved with proper documentation, guidelines and control from the authorities (Salleh, 2014). Four studies revealed the reality of poor documentations of breastfeeding and milk sharing implemented in the society. According to several authors, this problem can be managed properly by establishing e-infant breastfeeding and wet nursing certification (Mohamad Safir et al., 2019a; Mohamad Safir et al., 2020a). One article mentioned that education for documentation management needed to be implemented (Mohamad Safir et al., 2020b). One article said that a good database is needed for good *nasab* detection (Mohamad Safir et al., 2019b). An article also provided details for effective documentation such as the involvement of the National Registry Office or any related institution according to '*sa'ad al-zarai*' method (Salleh et al., 2014). Certification of the Ministry of Health Malaysia and the State Islamic Religious Council can be a reference point for the giving and receiving of milk donation (Daud et al., 2020a). In relation to this, Selangor Islamic Religious Council has already implemented MyRadhaah which could be emulated by other states (Mohamad Safir et al., 2020a).

Knowledge on Wet Nursing in Islam

Seven articles reported studies conducted to gauge women's knowledge, attitude and practices on wet nursing and human milk bank (Yilmaz et al., 2018; Ergin & Uzun, 2018; Daud et al., 2017; Che Abdul Rahim et al., 2021); views on wet nursing and milk kinship (Can, 2014);

views on human milk bank and milk donation (Senol & Aslan, 2017); rulings on wet nursing in Islam (Dimon et al., 2018); and one study on wet nurse's understanding the concept of wet nursing in Islam (Hamjah, 2021). Four studies were conducted in Turkiye and the other four studies were done in Malaysia. A big majority of women participated in Turkiye's studies had knowledge on wet nursing and a small minority of them had experienced either as wet nurses or their children were being breastfed by wet nurses. Almost of all of the participants had never heard and did not know the purpose of milk bank and about 50% of them were willing to donate to the milk bank. The reason for not willing to donate was on religious ground, that is, the formation of milk kinship. The studies also found that majority of the mothers were not willing to be wet nurses for fear of religious implications.

In Malaysia, the studies found a big majority of participants understood the establishment of milk kinship because of wet nursing which prohibits marriage with milk siblings. However, majority of them were unsure on marriage with milk grandparents and milk parents' siblings. They also had no knowledge on whether milk children can inherit properties of milk parents. Besides, participated mothers were unsure on rulings relating to *nasab* (lineage), guardianship, and mahram relationship between their own families, wet nurse's families and the spouse of wet nurse's families (Hamjah et al., 2021; Mohamad Safir et al., 2020a; Dimon et al., 2019). Two studies mentioned that the mothers conveyed verbally the wet nursing arrangement between them and the wet nurses and some of them only exchanged birth certificates (Mohamad Safir et al., 2020a; Mohamad Safir et al., 2020b). But one study found that most participants kept background data and information on their wet nursing practices. In Terengganu, Malaysia, one study showed that Malay female academicians were aware of breastfeeding's benefit, breastfed their own child, and they were not getting wet nursing service as they did not prefer it even though they fully understood milk kinship (Daud et al., 2017).

Father's Role

There was no study done specifically on father's role in wet nursing. However, many articles reported the father's obligations before and during wet nursing processes (Daud et al., 2020b; Mehrpisheh et al., 2020; Bensaid, 2021). The father of a child should find a wet nurse for his child if the mother of his child is not able to breastfeed for whatever reasons; must give consent to who should be appointed as his child's wet nurse; pay agreed upon wages to the wet nurse on a specific time; and pay the child's mother wages in case of divorce; and for those who adhered to Shafi'e and Hanbali schools of fiqh, the father should also pay the mother wages for breastfeeding. Since the milk kinship is legal and binding after all the requirements are met, the milk father should understand his roles also to avoid unnecessary complications in the future (Islam et al., 2018; Daud et al., 2012; Bensaid, 2021; Daud et al., 2020b).

CONCLUSION

This scoping review sheds some light on knowledge on wet nursing in the Muslim world from the existing literature. It discovered six major themes discussed in the reviewed articles which were categorized into history of wet nursing; wet nursing from Islamic perspective; milk bank and milk donation; documentation of wet nursing; mothers' knowledge and attitude on wet

nursing and milk donation; and fathers' roles in wet nursing. Wet nursing from Islamic perspective elucidated meanings of wet nursing and requirements on the establishment of milk kinship; and a specific section on wet nurse and milk donor was also elaborated. The main aim of this scoping review was to identify gaps in literature on wet nursing in the Muslim world. It can be concluded that the existing information and knowledge on wet nursing is not comprehensive enough to describe the reality of wet nursing in the Muslim world since most of empirical studies were done in Turkiye and Malaysia. Moreover, this review has identified the following gap in the existing literature that needs further research to inform policy and practice so that it would be consistent with Islamic teachings and principles. Further research should be done on:

- a. Highlighting the widespread breastmilk sharing without proper documentation to bring to awareness of the gravity of this problem so that steps to resolve the issue will be done with urgency.
- b. Investigating how the relationship between the milk families is maintained and strengthened guided by in-depth analysis of Prophet Muhammad's practices on keeping the tie of milk kinship.
- c. The Muslim public's knowledge on wet nursing, milk bank and documentation since the existing studies were done in limited settings only.
- d. Father's roles and responsibilities in the implementation of wet nursing especially on his responsibility to pay and choose the most suitable wet nurse.
- e. Effective documentations of wet nursing practices to trace milk family kinship to avoid unnecessary future problems by investigating what has been done in other Muslim countries.
- f. Guidelines for wet nursing practices to inform parents who wish to use wet nursing services on choosing the best wet nurse for their child in terms of the characteristics of wet nurse, the implications of wet nursing especially on Islamic rulings, the process involved between the involved parties, the documentation which is endorsed by the court of law; and suggestions and advice on strengthening the bond on milk kinship.
- g. Examining the lived experiences of wet nursing practices to further informed decisions to be made pertaining to policy and practice in wet nursing from Islamic perspective.
- h. The establishment of Islamic milk banks that comply with Islamic rulings on wet nursing and the promotion of milk donation as a vital means to decrease premature babies mortality rates which is in line with *maqasid al-shari'ah*.

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