

ORIGINAL ARTICLE

The Impact of the English Missionary Society on Improving Medical Conditions and Women's Health in Kerman

Abstract

The entry of the Church Missionary Society (CMS) of the English Protestant Church into Iran, and the establishment of missionary hospitals in various regions, including Kerman, led to a significant transformation in the development of medical practices. The activities of this society and its hospitals not only improved health and medical care in Kerman but also played a pivotal role in enhancing maternal health and safe childbirth in the region. The physicians at CMS Hospital in Kerman, along with Mrs. Stratton, who served as both a doctor and midwife, utilized modern medical knowledge and practices to save the lives of many mothers and infants during critical childbirth situations. In this context, Stratton authored a work titled *Midwifery*, which is based on the principles and correct methods of obstetrics. This book was the first work translated into Persian addressing women's health and obstetrics. The study aims to address the following question: What were the most significant medical actions taken by the CMS regarding women? And which aspects of women's health did Stratton emphasize most in her book? Findings indicate that the CMS's initiatives, such as establishing specialized sections for women's diseases in hospitals and attending to pregnant women, significantly reduced maternal and infant mortality rates. Stratton's emphasis on women's health in her book was rooted in a scientific approach, focusing on three key phases: pre-pregnancy, pregnancy, and postpartum care.

Key words: Missionary Society, Medicine, Women, Stratton, Kerman, Midwifery, Hospitals

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Introduction

Contagious diseases and a lack of hygiene were among the most prominent challenges in Iran during the Qajar era, rooted in chaos and governmental neglect. This situation improved with the success of the Constitutional Revolution, as the expansion of healthcare, combating contagious diseases, and advancing medical education became priorities for the parliament. Among the critical issues addressed during this period—primarily by women activists—was the focus on women's health and hygiene, particularly during pregnancy and childbirth. This concern was notably reflected in the women-led newspapers of that era. These publications sought to critique the traditional environment governing women's lives, rethink education and health issues, and challenge the conventional discourse in this field. They aimed to open new horizons for women's lives within the society of that time (Safaeian, 2018, p. 1). It should be noted that, in addition to the high maternal and infant mortality rates during pregnancy and childbirth caused by common health problems, there was another issue in the Kerman region tied to the livelihoods and living conditions of its people: working in carpet-weaving workshops. Many children were forced to spend long hours sitting by looms in tiny and dark rooms. This, coupled with poor nutrition, led to bone deformities and rickets, especially in girls, which later posed serious risks during childbirth. Mothers of these girls would sell their growing children at six or seven to carpet-weaving houses under four to five-year contracts in exchange for a daily wage of one or two Qerans. The girls worked nine hours a day in the winter and 11 hours in the summer, eating only dry bread for lunch. Sitting on wooden planks without backrests caused deformities in their bodies, often leading to hunchbacks. When these girls, who frequently married at a young age, became mothers, 75% required severe surgical intervention to save their lives and their babies during childbirth. However, Kerman lacked a well-equipped hospital, maternity center, and skilled physicians. Consequently, many mothers died during childbirth because local midwives could not identify pelvic deformities and often gave up their futile efforts to deliver the baby, resulting in the death of both mother and child. Following the establishment of the CMS missionary society—a Protestant missionary institute aimed at evangelization in Africa and the East (Vasegh Abbasi, and Heidari, 2023, p. 36) and Missionary Hospital in Kerman, many mothers and children were saved. Their lives were preserved through correcting physical deformities and using modern surgical procedures (Vasegh Abbasi, 2023, pp. 97–98). However, missionary societies' medical and healthcare activities, especially their female physicians, significantly impacted women's health during this period. The Kerman Missionary Society established the Missionary Hospital, undertaking notable medical and healthcare initiatives in the city. The hospital's focus on prenatal care and childbirth was among its most effective measures, saving the lives of mothers and their children, particularly in a region where childbirth conditions and the lack of sanitary facilities posed severe threats to the lives of both mother and newborn (Moorshead, 1926, p. 131). Additionally, their valuable efforts in addressing women's health issues and alleviating women's pains led to more women visiting the hospital than men (Manuscript No. 483, 1938, p. 83). After the arrival of the association's physicians in Kerman, most natural childbirths were carried out in the city center by Miss Stratton



and her colleagues, with only high-risk cases referred to the hospital (Manuscript No. 476, 1937, p. 221) (Figure 1).



Figure 1. The operating room of the women's ward at Mission Hospital in Kerman (Manuscript No. 379, 1929, p. 194).

Over time, with the expansion of the association's services, the governor of Kerman, recognizing the expertise and skills of the midwifery team in saving the lives of mothers and newborns, requested Miss Stratton to hold training classes for local midwives (Annual Report of the Church Missionary Society, 1923–1924, p. 110). It is also worth noting that, from the Constitutional Era onwards, “*the art of midwifery*” was among the branches of science women were eager to learn, considering it essential for improving the health of women and the broader community (Baghdar Delgosh, 2017, p. 39).

Introduction to the Midwifery Book

The book midwifery, based on the experiences and insights of Miss Stratton, the renowned midwife of the Mission Hospital in Kerman, was written in English and translated into Persian by Ali Bu Ishaghi (Manuscript No. 20227/264, 1937) (Figure 2). In the book's introduction, the author stated that “*this work is useful for students of midwifery schools and also for those engaged in this field in Iran, serving as a helpful resource.*” She further emphasized the importance of addressing the essential aspects of midwifery, noting that “if a midwife understands and practices these concepts thoroughly, she can recognize abnormalities and thereby prevent delays during pregnancy and the complications that sometimes arise from negligence” (Stratton, 1938, p. 2). Stratton utilized illustrations from Alec D. Bourne's midwifery and Nursing to convey concepts tangibly to the readers. In the preface written by Dr. Dodson,



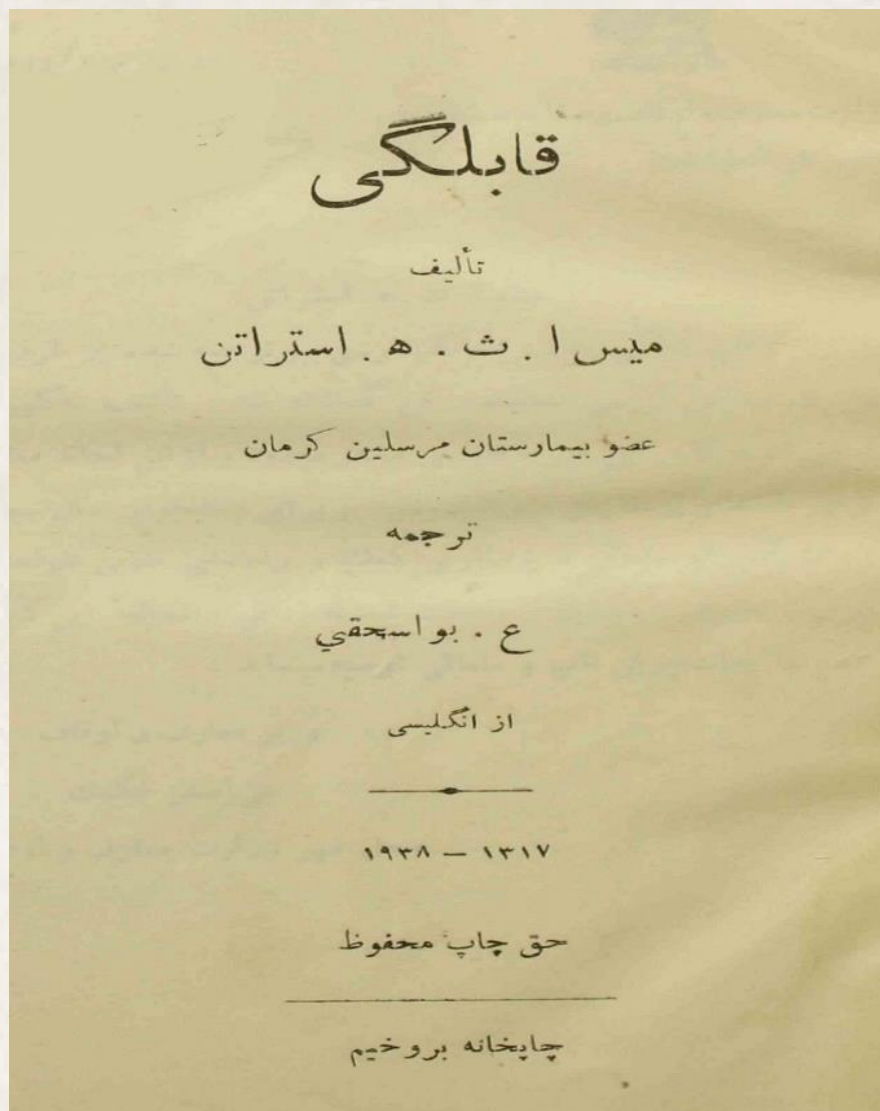


Figure 2. The midwifery book (Stratton, 1938)

one of the most prominent physicians of the missionary association and a vital founder of the Mission Hospital, he not only expressed gratitude to the author but also invited students and the public to benefit from the book. Dr. Dodson highlighted Reza Shah's efforts to advance Iranian society towards progress and modernity, referring to midwifery as a vital branch of medical science and stressing the necessity of such a book in that era (Stratton, 1938, p. 3). Ali Asghar Hekmat, the Minister of Education, Endowments, and Fine Arts, sent a letter to Miss Stratton, expressing gratitude and appreciation for her efforts. He described her book as the first to be translated into Persian, providing significant benefits (Manuscript No. 13738/4404, 1937) (Figure 3). Given the value and usefulness of the book, a three-article contract was established between the author and the Ministry of Education for its publication:



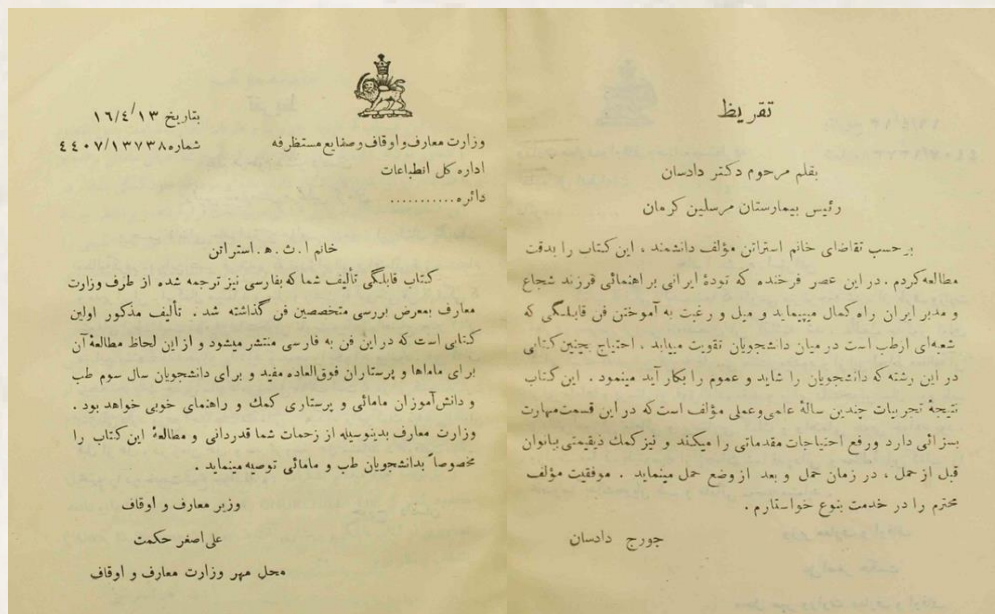


Figure 3. The endorsement of the value of Mrs. Stratton's book by the Minister of Education and the Director of the Missionary Hospital of Kerman (Manuscript No. 13738/4407, 1937)

1. The First Article: Miss Stratton committed to translating the book into fluent and clear Persian and publishing it by the end of Esfand 1316 (March 1938). She was also required to deliver 200 copies to the Ministry of Education. Additionally, the book was to include a table of contents, references, scientific terminology, and a glossary of specific terms and phrases at the end (Figure 4).

فرهنگ فنی انگلیسی به فارسی		فرهنگ فنی فارسی به انگلیسی		
A	Abscess due to gonorrhea	دوره از وضع حمل	(الف)	
	Acetabulum	Umbilical cord	Hydrocephalus	
	Albuminuria	Urinometer	Serum	
	Amnion	Hoemorrhoids	Superior vena cava	
	Anterior superior spines	Testes or testicles	Urine	
	Anterior posterior diameter	(پ)	Hydromnios	
	Antiseptic	Fimbriae	Diarrhoea	
	Anaesthetic apparatus	Hymen	Ilium	
	Arteries	Foreskin	Innominate bone	
	Aseptic	Scalp	Sacrum	
B	Caput succedaneum	Verinx caseosa	Frontal bone	
	Cephalhaematoma	(ت)	Occipital bone	
	Cerebral hemorrhage	Spore	Ischium	
	Cervix	Ovaries	Albuminurea	
	Chorionic villi	Internal ballotement	Forceps	
	Cilia	External ballotement	Body or fundus	
	Circular muscles	Relaxation of the muscle	Contraction of the muscle	
	Clitoris	Convulsions	Sclerema	
	Coccyx	(ث)	Foramen ovale	
	Contraction of the muscle	(ج)	Septa	
C	Convolutions	Corpus luteum	Blocked duct	
	Corpus luteum	Placenta	Thrush	
	Coronal suture		Hydatidiform mole	
	Colostrum			
	Colic			
	Crimp			
	Craniotomy			
	Cystitis			
	D	Deodorants		
		Diarrhoea		
Diagonal conjugate				
Diaphragm				
Diabetes				
Direct uterine force				
E		Edema		
		Ectopic pregnancy		
		Eclampsia		
		Epididymitis		
	Erythema			
	Erythrocytes			
	Erythrocytosis			
	Erythraemia			
	Erythroid			
	Erythroid			

Figure 4. The Persian–English and English–Persian glossary section of Stratton's Midwifery book (Stratton, 1938)

2. The Second Article: The Ministry of Education pledged financial support amounting to 1,800 rials, with 1,200 rials paid upon signing the contract and the remaining 600 rials upon publishing the book and delivering 200 copies to the Ministry.

3. The Third Article: It was stipulated that if Miss Stratton failed to fulfill the contract terms, the Ministry had the right to annul the agreement and reclaim the funds paid (Manuscript No. 20227/264, 1937). (Figure 5).

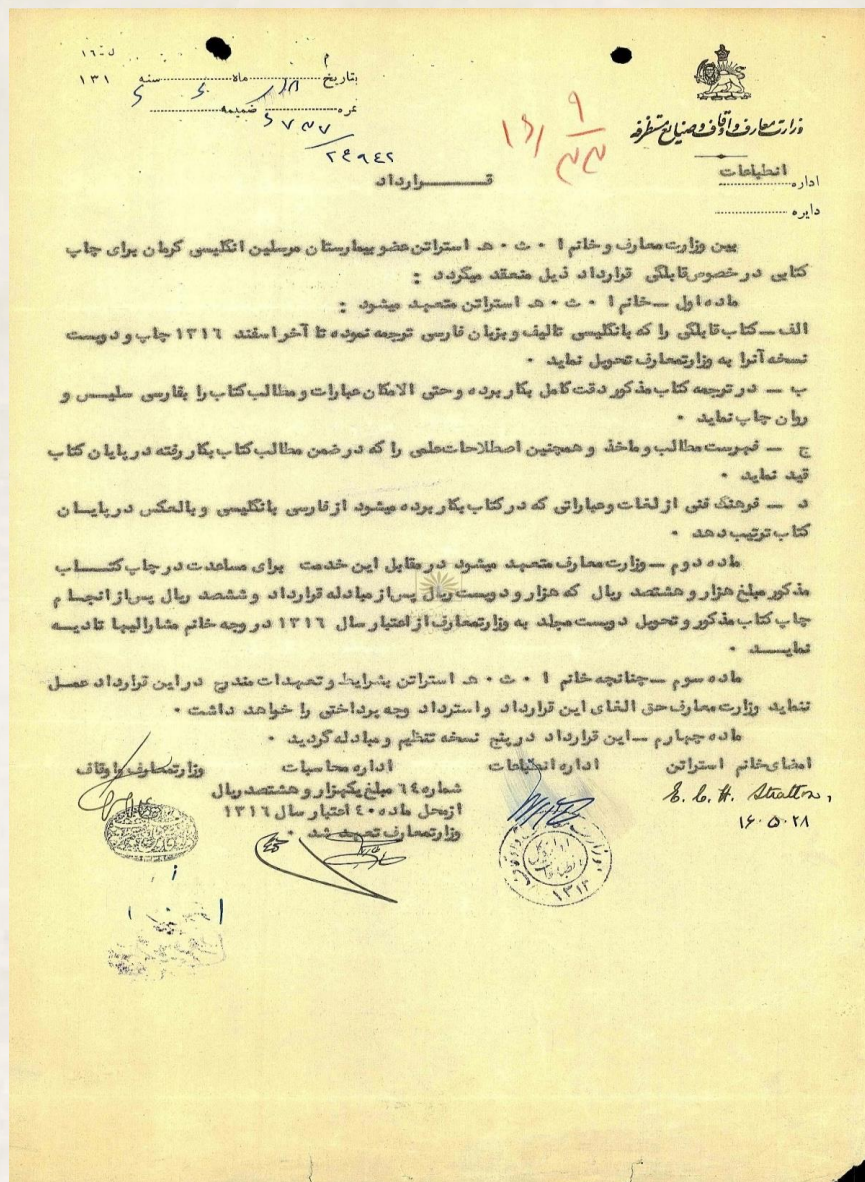


Figure 5. The publishing contract for the Midwifery book between Mrs. Stratton and the Ministry of Education (Manuscript No. 20227/264, 1937)

Mr. Wyshm, the head of the American Mission in Iran, also addressed a letter to Dr. Jahanshah Saleh, the head of the Women's Hospital and Nursing School. In the letter, he emphasized the book's utility for midwifery and nursing students and arranged to pre-order 500 copies at 9 rials per copy, amounting to 4,500 rials (Manuscript No. 20227/264, 1937).

Key Features of the Midwifery Book

1- Women's Health Before Pregnancy

In the first five chapters, the author explains the anatomy of the female reproductive system, its function during pregnancy, and the importance of menstrual health. She provides a detailed description of the pelvis and its key internal organs, focusing on the uterus, which during pregnancy expands from 6.25 cm to 30 cm and increases in weight from 50 grams to 1 kilogram (Stratton, 1938, pp. 18–19). The author adds that a healthy uterus prepares itself for pregnancy each month, and if conception does not occur, menstruation follows. A typical menstrual cycle lasts 28 days, although this duration varies among individuals. Menstruation begins at puberty and, excluding pregnancy, continues until menopause (Stratton, 1938, pp. 23–24). She also discusses the changes associated with menopause. This section includes relevant illustrations tailored to each topic (Stratton, 1938, pp. 1–18).

2- Women's Health During Pregnancy

In chapters six to twenty-seven of the book, Stratton discusses the condition of the fetus and its growth and development, the importance of thorough initial examinations and prenatal care, determining the timing of delivery and identifying the signs of labor onset, the mechanism of natural childbirth, and the preparations required to ensure a smoother natural delivery process (Figure 6).

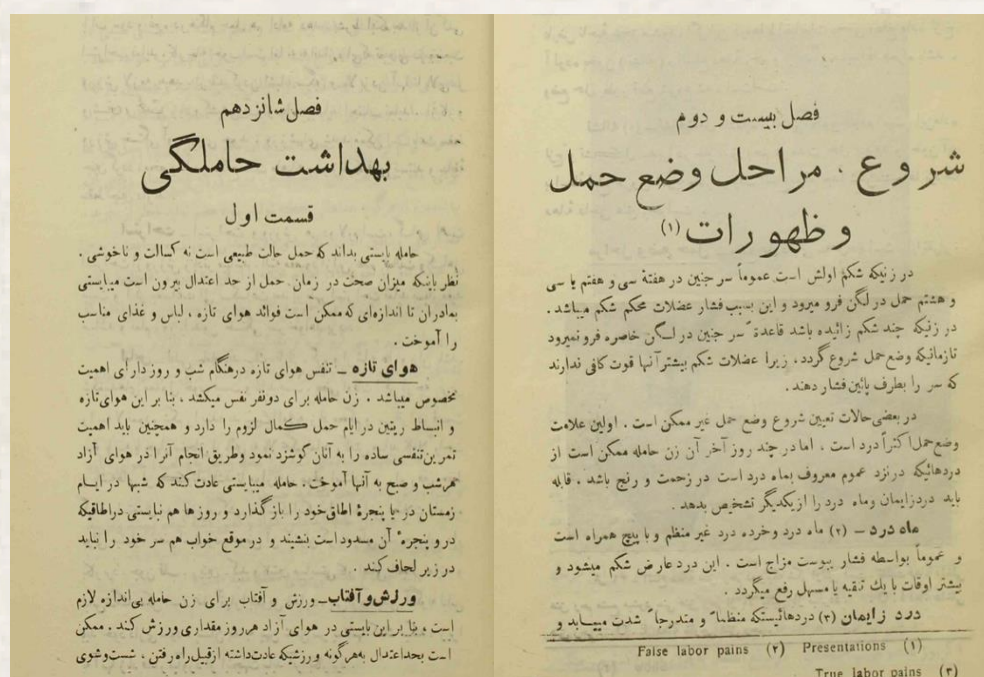


Figure 6. A sample of pages from Stratton's Midwifery book (Stratton, 1938, pp. 58, 122)

Stratton highlights the essential point of estimating the due date. She explains that women should count nine solar months from the last day of their most recent menstrual





period and add three to four days. If the due date is calculated based on lunar months, ten to eleven days should be added, as lunar months are shorter than solar ones. However, she notes that knowing the exact delivery date is impossible (Stratton, 1938, p. 52). Stratton emphasizes that nursing and attentiveness during pregnancy are the most critical responsibilities of a midwife, as they contribute to a healthy pregnancy and natural delivery. This also enables the midwife to identify abnormalities and provide proper instructions and treatments for pregnant women. She explains that the health of the mother is directly tied to the care and attention given during delivery, as many mothers and newborns lose their lives annually during childbirth. A well-trained midwife can save the lives of many mothers and infants (Stratton, 1938, p. 54). The author insists midwives must encourage pregnant women to visit monthly for necessary instructions and examinations. Midwives should document details such as the woman's name, address, age, duration of marriage, number of previous deliveries, and miscarriages, as well as the date of the last menstrual period. They should also inquire about the mother's history of illnesses such as scarlet fever, rheumatism, tuberculosis, pneumonia, severe influenza, and typhoid fever (Stratton, 1938, p. 55). She advises pregnant women to pay special attention to fresh air, exercise, sunlight, sufficient rest, appropriate clothing, and a proper diet. According to Stratton, clothing should be lightweight, thin, warm, and hung from the shoulders. Shoes should be comfortable, and low heels should be worn to maintain balance while walking and standing. She defines a healthy diet as simple and capable of providing the necessary nutrients for the fetus. Pregnant women should avoid fatty and spicy foods and drink plenty of water throughout the day. An adequate intake of vitamins A, B, C, and D, and essential minerals is essential. A daily diet consisting of half a liter of milk, 30 grams of butter, some bread, fresh fruits, and vegetables supplies the required vitamins and minerals (Stratton, 1938, pp. 79–81). She also stresses the importance of maintaining bowel health, breast hygiene, dental care, and regular bathing. Stratton warns pregnant women about symptoms, such as sudden muscle contractions, swollen legs, indigestion and heartburn, back pain, and frequent urination (Stratton, 1938, pp. 86–89).

The author identifies three factors contributing to miscarriage:

1. Fetal Causes: Syphilis, fetal illness or death, or abnormalities in the placenta.
2. Maternal Causes: Syphilis, maternal illness, severe shocks, falls or injuries, induced abortion through drugs or tools, and illegal or unsafe abortion.
3. Paternal Cause: Syphilis (Stratton, 1938, p. 92).

3. Women's Health after Pregnancy

In the final chapters, Stratton focuses on postpartum care, the health of the newborn, and infant nutrition. She emphasizes that mothers should breastfeed their infants unless they suffer from severe illnesses such as tuberculosis or serious heart conditions. Midwives are encouraged to motivate mothers to breastfeed, as maternal ignorance and neglect are some of the main reasons for infant malnutrition and lack of growth. Breast milk is the best food for the baby, containing all the necessary nutrients (Stratton, 1938, p. 151). The author also discusses the risks of complications from abnormal deliveries, the conditions surrounding the birth of a newborn, common childhood illnesses,

and the care of premature babies. Instructions on administering medication to women are provided, stressing that midwives must thoroughly understand these practices and avoid using any medicine unless they have learned how to administer it correctly. Stratton outlines essential precautions for midwives when giving medication:

1. Carefully read the label on the medicine.
2. Place a finger on the medicine bottle cap and shake it well.
3. Ensure they know the purpose of administering the medication.
4. Smell the medicine before use.
5. Re-read the label before giving the medication (Stratton, 1938, pp. 227–228).

Stratton also elaborates on cesarean surgeries for cases where natural delivery is not possible. In the concluding section, she reiterates the importance of exercise during and after pregnancy (Stratton, 1938, pp. 239–242). She concludes the discussion with detailed instructions on infant nutrition from birth to two years, providing specific guidelines for different months.

Among the most significant outcomes of the medical practices and teachings of Mission Hospital in Kerman was the increased trust and reliance of families and women on modern medicine. The scientific methods employed by Stratton and her colleagues in caring for mothers and newborns during pregnancy and childbirth significantly reduced maternal and neonatal mortality rates. A report highlights that Mission Hospital in Kerman, within one year, successfully treated and performed surgeries on 47 pregnant women who were carpet weavers and had experienced changes in body structure (legs and pelvis) due to their occupation (Morton, 2007, p. 217). Of these cases, 28 mothers were brought to the hospital after losing their babies, but 19 mothers successfully delivered healthy babies through cesarean sections (Rice, 2004, pp. 98, 187).

Conclusion

One of the significant demands of women since the Constitutional Era has been the attention given to women's health, particularly during pregnancy. Recognizing the importance of this issue, female activists of the period brought it to public attention through women's newspapers, raising societal awareness. The Church Missionary Society (CMS), active in medical and educational endeavors in central and southern Iran, also prioritized this matter. In Kerman, it established a hospital with separate wards for men and women. Miss Stratton, a missionary physician of the CMS and midwife at Mission Hospital in Kerman, played a significant role in assisting natural births and performing cesarean sections for some women in the city, particularly young women and female workers in carpet-weaving workshops. She authored the book *Midwifery* to provide structured midwifery education and raise societal awareness about women's health, especially during pregnancy. Her book, the first of its kind translated into Persian, was primarily aimed at medical students and midwifery trainees. However, it also contained valuable general information for women and pregnant mothers, helping to enhance their knowledge and awareness during this critical period.

Authors' Contribution

The authors continuously collaborated and consulted with each other in the concep-



tion, data collection, analysis, and interpretation for this study. All authors read and approved the final version of the work.

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Conflict of Interest

None.

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