## Dana Louise Raphael (1926–2016)

Dana Louise Raphael was an anthropologist and breastfeeding advocate in the US during the twentieth century. After she was unable to breastfeed her own infant, Raphael began to research why breastfeeding was more common in other cultures than in the US. As part of that research, Raphael cofounded the Human Lactation Center, where she studied the breastfeeding habits of mothers around the world. Through that research, she coordinated with formula manufacturers to educate women on the benefits of breastfeeding and formula supplementation to reduce infant mortality in developing nations. In addition, Raphael was the first person to use the word doula to describe a childbirth support companion for laboring women. Raphael was an advocate for the acceptance of breastfeeding around the world, and asserted the importance of doula support for new mothers in the form of breastfeeding education.

Raphael was born on 5 January 1926 in New Britain, Connecticut, to Naomi Kaplan and Louis Raphael. During her childhood, Raphael had a nanny and only saw her mother for one hour a day. She struggled with dyslexia, a reading disorder, throughout her education. In the 1950s, she attended Columbia University in New York City, New York, where she studied anthropology. In college, Raphael met Howard Boone Jacobson, who later became a journalist. They married in 1953, and Raphael refused to take Jacobsen's last name.

Raphael reported that, after the birth of her first child, she had difficulties breastfeeding her infant. According to Sam Roberts, author of Raphael's New York Times obituary, Raphael's interest in the use and success of breastfeeding in some places was sparked by her experiences with breastfeeding. According to journalist Maggie Jones, Raphael identified a cultural divide in the United States on opinions of whether or not breastfeeding was necessary. According to Jones, Raphael believed that breasts were becoming oversexualized by the media, leading to a reduction in a woman's desire to breastfeed. Raphael graduated with her bachelor's degree in anthropology in 1956 and went on to investigate more perspectives related to breastfeeding in her graduate education.

In the 1950s and 1960s, Raphael researched societal perceptions of breastfeeding as a part of her anthropological research. Raphael began her doctoral degree in anthropology at Columbia University. In her graduate program, she researched how other civilizations used medicine in their lives and how common breastfeeding was in cultures around the world. While conducting her research, Raphael carried a small notebook with her and asked strangers their opinions of breastfeeding. She received answers that varied from approval of breastfeeding to complete disgust. Anthropologist and professor Margaret Mead helped direct Raphael's doctoral dissertation, which she completed in 1966. Her dissertation, published as a book in 1973, was titled "The Tender Gift: Breastfeeding." In her dissertation, Raphael used the word doula to identify a woman who served as a supportive companion to a pregnant woman during childbirth. The word doula is derived from a Greek word meaning woman servant. Raphael was the first person to describe such companions as doulas.

Following Raphael's graduation, she and her family moved to Westport, Connecticut. There, Raphael and Mead continued their professional relationship. During her collaboration with Mead, Raphael gave birth to another son, whom she breastfed until he was five years old. She then adopted a third child, who she nursed after having a friend's infant suckle her breasts until milk was produced, a phenomenon called relactation.

In 1973, Raphael and Mead opened the Human Lactation Center in Westport, Connecticut. The Center operated out of Raphael's home. Raphael and Mead directed the Center's first large project in which they examined the status of breastfeeding in rural communities around the world. In the late 1970s Nestle, a food and beverage company, became the target of an international boy-

cott. Protestors claimed that Nestle falsely marketed baby formula as healthier than breast milk to mothers without access to clean water. Raphael and Mead developed their research project in response to those protests. They found that many women felt encouraged by companies like Nestle to use formula to feed their infants. However, the women were often either diluting the formula with too much water, or using contaminated water because of their poor living conditions. Raphael and Mead found both phenomena problematic for an infant's development. They encouraged the practice of breastfeeding only, and recommended formula to mothers only to supplement breastfeeding. In 1979, Raphael and Mead published their findings, along with detailed recommendations for weaning an infant with an emphasis on cultural variation, in "Breastfeeding and Food Policy in a Hungry World." In the following years, Raphael became a vocal critic of water bottling and distribution companies, like Nestle, that encouraged women in poor environments to use formula over breastfeeding.

Through the 1980s, Raphael continued to research breastfeeding, including lactation and weaning support for the mother. Weaning is the process of introducing solid foods to an infant's diet and lactation is the process of a woman's breasts producing milk. In 1984, she published "Weaning is Always: The Anthropology of Breastfeeding Behavior," in affiliation with the Human Lactation Center. In the article, Raphael asserted that more breastfeeding researchers needed to focus on weaning. She argued that infant mortality rates were related to mothers not knowing how to transition their infants from breast milk to solid food. In a 1989 article, she asserted that new mothers needed guidance and support during lactation. Raphael argued that doulas could provide such support, but that doula support needed to extend past the birth of the infant. Raphael encouraged women to use lactation doulas to navigate breastfeeding.

Raphael continued to research the connections between lactation education and mothers' breast-feeding habits. Raphael's research into breastfeeding was later used to train certified birthing assistants through the organization DONA International. In 1992, researchers Marshall Klaus, John Kennell, Penny Simkin, Phyllis Klaus, and Annie Kennedy cofounded DONA International, a doula certification agency, for the benefit of pregnant women. Raphael was the first person to use the word doula to refer to a birthing support aid, and the researchers utilized Raphael's word choice. The agency trained women to be supportive companions, or doulas, who provide comfort and support for laboring mothers. DONA International also cited Raphael's research on lactation and breastfeeding in their doula training manuals.

Throughout the rest of her career, Raphael remained a breastfeeding advocate. She wore a necklace with an intrauterine device, a type of contraceptive, to represent the empowerment of women. Up until the age of eighty-nine, she took ballet classes three times per week with her son, who directed a ballet company. Raphael died on 2 February 2016 at the age of ninety.

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