

Objectives: We aimed to clarify the content of care provided by midwives working in hospitals and clinics in Japan and the unmet needs in midwifery are from mothers' perspectives. E-mail addresses: chibay@mase.mp.ac.jp (Y. Chiba), hayashii@kyomkango.ac.jp (R. Hayashi), mehhakancloud.com (Y. Kita), takeshita.mai@best.kyoto-u.ac.jp (M. Takeshita) Present address: Department of Midwifery, Graduate School of Human Nursing, The University of Shiga Prefecture 2500, Hassaka-cho, Hikone, Shiga 522-8533 Japan [haju://doi.org/10.1016/j.heliyon.2022.18747](https://doi.org/10.1016/j.heliyon.2022.18747) Received 29 November 2022, Received in revised form 25 July 2023, Accepted 26 July 2023 Available online 27 July 2023

2405-84-40/0 2023 The Authors. Some were left alone with pain during labour, for example, "Until my husband came, I was crying and screaming alone, so I wanted (my midwife) to stay longer, but she was busy. She was unable to stay (with me) all the time. Well, until the cervix fully opened, I had to endure (the pain) all by myself! (CMI) To receive timely and appropriate treatment for unexpected progress of labour: Participants who had unexpected progress in labour wished they had received more timely and appropriate care from midwives. For example, one was surprised at the rapid progress in labour, whereas another was discouraged by the very slow progress. I wanted my midwife to hold my baby's head securely so that it didn't come out before I reached a birthing table! (GP1) I just assumed that the intense pain would come only before pushing out a baby. However, unexpectedly, my labour did not progress so easily, and my pain lasted for a long time. During the process, my midwife did not encourage me but just said to me. "Your pain will be more and more intense later!" were asked to recall their experiences with midwives, from pregnancy through the first post-

Results: Seven themes regarding the care provided by midwives were generated: confirmation of physical condition, maintenance and promotion of perinatal physiological process, support for better preparation for childbirth, assistance in labour and childbirth, support for a new life with a baby at home, support for the family, and care for comfort and confidence mother. Given the operational burden on obstetricians, midwives seek professional autonomy by setting up in-hospital midwife-led care (at labour and childbirth) [immai-josan] and an 'in-hospital midwifery clinic (for antenatal and postnatal consultation) [josanshi-gairat]' for low-risk women [18]. This is open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>) Y. Chiba et al. *Heliyon* 9 (2023) 18747 in the Tokyo metropolitan area for 10 years between 2005 and 2014, was 87 per 100,000 live births [3]. Because of the closure or scaling-down of maternity services in many facilities owing to the shortage and maldistribution of obstetricians, and declining birth rates [16], midwives can be allocated to other wards.

Introduction Perinatal outcomes in Japan are among the best worldwide, with a maternal mortality ratio of five deaths per 100,000 live births in 2017, and one neonatal and two infant deaths per 1000 live births in 2020 (1). Ten subthemes, under the five themes of unmet needs, were integrated into five categories: midwives' responses, potential concerns, lack of continuity of care, and lack of personalised care.

Key conclusions and implications for practice: Midwives in hospitals and clinics in Japan mainly provided care from pregnancy to one-month postpartum, in line with global care competencies. A survey by the Japanese Nursing Association (JNA) in 2020 reported that 67.8% of maternity wards receive a mixture of patients [17] to increase the turnover rate by filling empty beds.

Design: This study employed a qualitative approach through semi-structured interviews.