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Rationale for the Project: With mothers' participation in the workforce, changes in social life, and the shift to the nuclear family structure, fathers' role in childcare has begun to increase (May & Fletcher, 2013). It is stated that fathers' participation in care positively affects the mother's psychological and social well-being and the baby's emotional and social development (May & Fletcher, 2013). However, it is stated that prenatal education for fathers is less effective than that for mothers (May & Fletcher, 2013). This is said to stem from the fact that the mother's needs are the focus and the father is treated as a supporting figure (May & Fletcher, 2013).

Many fathers experience psychological problems, attachment issues, deterioration in spousal relationships, and social isolation during the early stages of parenthood (May & Fletcher, 2013). Therefore, providing support to expectant fathers on topics such as infant care, parenting roles, couple relationships, and preparing for the baby from the early stages of their partner's pregnancy will be effective in reducing these problems. To create this support program, the needs of new fathers must be identified. Data was collected from new fathers using a questionnaire developed by researchers based on the literature to prepare the educational content to be used in this study (Özaydin et al., 2021). The content of the training was developed based on these data. After the training, variables such as fathers' stress levels, father-infant bonding, intrauterine father-infant bonding, mother-infant bonding, mother-father stress levels, fathers' attitudes toward breastfeeding, and fathers' participation in breastfeeding were examined (Çekiç & Hamamcı, 2018; Dönmez & Gümüşsoy, 2019; Güleç & Kavlak, 2013; Hazar & Gültekin, 2023; Karakulak Aydemir & Alparslan, 2016). This study aims to determine the stress levels of fathers, father-infant bonding, intrauterine father-infant bonding, mother- infant bonding, mother-father stress levels, fathers' attitudes toward breastfeeding, and the effect of breastfeeding and marital satisfaction by providing education to identify and address the knowledge gaps of fathers before birth.

Methods

Type of Research

This study will be conducted using a randomized controlled experimental design.

Research Population and Sample

The research population of this study consists of fathers aged 19–65 who have become fathers for the first time within the past month. These individuals represent the target group of the intervention, as early fatherhood is a critical period for bonding, stress regulation, and engagement in newborn care and breastfeeding support.The minimum required sample size was calculated using G-Power analysis. For this purpose, based on the study by Işık and Cetişli (2020), the minimum sample size was calculated to be 24 in total, with 12 for the experimental group and 12 for the control group, assuming a 0.01 error rate, 0.99 power, and an effect size of 2.11 (Işık & Cetişli, 2020).

Inclusion Criteria:

- Age between 19 and 65 years
- First-time father
- Has become a father within the last month
- Has a healthy newborn without congenital anomalies or chronic illnesses
- Does not have a premature or low-birth-weight baby
- Has not become a father through adoption
- Owns a mobile phone capable of accessing the mobile-based application
- Has an Android or iOS operating system
- Has not received any infant care training within the last 6 months
- Has no physical or mental disability that would prevent viewing, hearing, or understanding the research questions or educational content
- Voluntarily agrees to participate in the research.

Exclusion Criteria:

- Declines to participate in the research
- Does not own a smartphone
- Cannot use mobile applications
- Has a physical or mental condition that prevents completing the questionnaires

- Has a baby with congenital anomalies or chronic medical conditions
- Has a premature or low-birth-weight baby
- Has received infant care training within the last 6 months
- Has adopted a child
- Is outside the 19–65 age range.

Data Collection

The study will include an intervention group and a control group. The intervention group will receive training on infant care via a mobile-based application. The control group will not receive any intervention (training). A lottery method will be used to determine which group participants will be assigned to. Specifically, an equal number of papers labeled "intervention" and "control" will be placed in a sealed envelope, and individuals will be asked to select one paper. Participants will not know which group they are in, but the researcher will. Therefore, this will be a single-blind study. Data will be collected via an online questionnaire form sent to parents through a mobile application. The pre-test form will be sent to all fathers before the training is provided via the mobile application. The post-test will be sent to fathers after they complete the 6 modules in the application.

Data Collection Tools

The "Socio-demographic Characteristics Form", "*State-Trait Anxiety Inventory*" "*Father-Infant Bonding Scale*", "*Fathers' Breastfeeding Attitude and Participation Scale*" and "*Marital Satisfaction Scale"* will be used to collect data before and after the training.

Data Analysis

The SPSS 23.0 program will be used for data analysis. For categorical variables, frequency will be examined, and for numerical variables, mean, standard deviation, median, or quartile values will be examined. To examine the difference between groups, the necessary difference tests will be performed according to the normal distribution.

Ethical Aspects

The necessary ethical committee approval for this research was obtained on 16 April 2025 from the Ethics Committee Presidency of Gaziantep Islamic Science and Technology University (Approval Number: 582.45.13). In addition, permission will be obtained from individuals via a voluntary consent form, and the study will then proceed.

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