Aims and Scope

Women’s Health Nursing is a primary source of information for meeting the challenges of providing optimal healthcare for women. The journal aims to be a core resource for cutting-edge advancements and clinical applications of new nursing practice, therapeutic protocols for managing health problems in women, and innovative research on gender-based issues that impact treatment and nursing care.

Its scope includes the latest clinical and research papers on health issues that affect women throughout their lifespan. The emphasis is on clinical nursing practice and education on the social science components relevant to women's health issues. It also includes nursing care, education, and research methodology for ante-, intra-, and post-partum women, middle-aged and elderly women's health, socio-cultural issues, and therapies. Its regional focus is mainly Korea, but it also welcomes submissions from researchers all over the world.

About the Journal


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Preparation of the nursing workforce in the field of women’s health

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Introduction

In hospitals where deliveries take place, there is a critical shortage of obstetricians, leading to extended waiting times and a preference for cesarean sections over vaginal deliveries, which require more unpredictable and longer periods of labor and may not be as amenable to scheduling as elective cesarean sections. This shortage is a significant factor behind the rise in the cesarean section rate, which reached 58.7% in 2021 [1]. Despite efforts since 2011 to support facilities in regions lacking obstetric care through funding for infrastructure, equipment, and operational costs, new underserved areas continue to emerge as obstetric clinics close and services are discontinued [2]. This situation underscores the need for measures to protect the health rights of women of childbearing age. Additionally, with fewer candidates applying to obstetrics and gynecology residency programs, hospitals increasingly rely on obstetrics clinical nurses to assist obstetricians, alongside nurses specializing in women’s health care [3].

In 2023, South Korea’s total fertility rate was recorded at 0.72—less than half of the OECD average of 1.58 in 2021 [4]. In response, the government, the National Assembly, and local governments have initiated various policy projects to address the low birth rates, leading to a heightened demand for nursing personnel in women’s health to support pregnant women and their families [5]. Additionally, from 2020 to 2023, the coronavirus disease 2019 (COVID-19) pandemic increased stress and fear among pregnant women, particularly concerning the risk of COVID-19 infection during delivery, influencing their choice of delivery method [6]. The critical role of nursing personnel in supporting pregnant women and their families during such crises has been increasingly recognized. Therefore, this editorial aims to propose strategies for preparing nursing workforce to address the evolving needs in women’s health care, including the increase in underserved areas for deliveries, the heightened health needs of pregnant women during infectious disease outbreaks, and various maternal health and childcare support projects designed to combat low birth rates.

Current status of nursing workforce preparation in the field of women’s health

Under the Medical Service Act in South Korea, a midwife is defined as either a person who holds a nursing license and has completed a 1-year midwifery internship at a medical institution approved
by the Minister of Health and Welfare, or someone who has obtained a foreign midwifery license recognized by the same authority and has passed the national examination [7]. According to the guidelines for field midwifery practice, midwives are responsible for performing 56 tasks across seven areas: pregnancy management, delivery management, postpartum care, newborn care, primary healthcare, law and ethics, and general management [8]. However, due to a declining birth rate and reduced hiring of midwives in hospitals, the number of midwifery internship institutions has dwindled to four as of 2024, training only 12 midwives this year [5]. Additionally, Article 38 of the Medical Service Act Enforcement Rule mandates that general hospitals—and hospitals or clinics with obstetrics departments—must staff at least one-third of their delivery room nurses as midwives. Despite this requirement, compliance is low due to insufficient regulations [5].

Since the maternal fetal intensive care unit (MFICU) was established in 2014 to efficiently manage high-risk pregnant mothers and newborns, there has been a recognized need to ensure that MFICU nurses possess the requisite expertise to care for this vulnerable population. In response, a collaborative effort involving the Korean Association of Women Health Nurses, the Korean Society of Women Health Nursing, and the Korean Society of Maternal and Child Health led to the development and evaluation of an empowering education program aimed at enhancing the practical competencies of MFICU nurses [9]. This education is provided to professionals in the field every year. Despite these efforts, there remains a lack of a specific training plan for MFICU nurses that is led by either the government or medical professionals.

## Performance of the nursing workforce in the field of women’s health

The performance of the nursing workforce in women’s health provides crucial evidence for the future allocation of necessary personnel. One study introduced a nurse-led doula support program as a natural childbirth method and assessed its effectiveness. The findings indicated that this program decreased maternal anxiety and labor pain while increasing childbirth satisfaction [10]. Another study examined the perinatal health outcomes for mothers who chose midwife-led natural childbirth at birthing centers. It found that these outcomes were superior to those of mothers who delivered in hospitals [11]. Specifically, mothers at birthing centers experienced lower risks of perineal tears, postpartum hemorrhage, and cesarean sections, along with fewer complications related to newborn Apgar scores and meconium staining. These findings suggest that women who actively choose and engage in natural childbirth, supported by professionally skilled midwives providing personalized labor and delivery care, can achieve better health outcomes and a more positive childbirth experience for themselves and their families. This highlights the importance of maintaining staffing standards for midwives in hospitals and ensuring an adequate number of nurses with specialized education in perinatal care to improve perinatal health outcomes and ensure a safe and joyful childbirth experience.

To address the issue of a low birth rate, the government has revised sections of the Mother and Child Health Act (Articles 10 and 11). These amendments assign the responsibility of home visits to national and local governments to support pregnant women, infants, premature babies, and others. These visits are conducted by maternal and child health professionals, including midwives, to provide essential health management services [12]. In recent efforts to respond to the low birth rate, professionals specializing in women’s health nursing have joined as key contributors to various initiatives. The Korean Midwives Association has collaborated with the “Seoul Breastfeeding Support Project,” which has been operational since July 2023. This partnership focuses on training the required nursing staff and has documented the accomplishments of those deployed in Seoul [13]. The Korean Midwives Association offers an 8-week course, totaling 48 hours, to train breastfeeding specialists [14]. The Seoul project team then certifies these individuals as Seoul Breastfeeding Counselors, who deliver personalized care and breastfeeding education to mothers on a one-to-one basis. Among the 5,400 mothers involved in this project, 98% who responded to a survey reported satisfaction with the services provided. Impressively, 71% of the mothers who utilized these services continued to practice breastfeeding (including mixed feeding) 3 months postpartum [13]. This figure significantly exceeds the national average, as only 26.9% of mothers reported breastfeeding at 3 months postpartum in 2021 [15]. This contrast demonstrates the significant contribution of well-prepared nursing personnel, such as breastfeeding counselors, to breastfeeding practices.

## Expansion of women’s health nursing providers’ roles to meet health needs

Based on the experience of the COVID-19 pandemic, nurses specializing in women’s health must prepare to take on proactive roles as educators and counselors. This is essential to address the physical and mental health needs of pregnant women in the face
of future infectious disease outbreaks. While the role of midwives in medical institutions and birthing centers is crucial, there is a need to broaden their scope of practice. This expansion should include compliance with regulations that enable midwives to manage childbirth and maternal and newborn health in underserved areas, such as rural and fishing communities lacking obstetricians, thereby safeguarding women's rights to childbirth.

A study exploring the scope of practice for midwives in countries such as Sweden, the United Kingdom, and the United States [16] found that the role of midwives extends beyond perinatal health management. Their responsibilities also encompass education on parenting and contraception/family planning for children and adolescents, as well as health education, counseling on domestic violence, substance abuse, mental illness, school maladjustment, and providing primary health care and health education to community residents. Given the health needs in South Korea, it is crucial to conduct research on expanding the scope of women's health nursing practices and to engage in policy-making to broaden these roles. In the future, nurses specializing in women's health should be equipped to perform roles that go beyond hospital-based perinatal health management, offering primary health care and mental health support throughout women's life cycles.

Proposals for improving the training of nursing personnel in the field of women's health

To address the issue of low birth rates and adapt to the evolving healthcare landscape, the operation of the midwifery internship program should be improved and specialized competency education for nursing personnel in women's health should be promoted. The Korean Midwives Association has urgently called for the training of well-prepared midwives to respond to low birth rates. They advocate for relaxing the standards for midwifery internship institutions to increase the number of these institutions and to include educational entities outside of medical facilities [5]. To remedy the deficiencies in the systematic operation and management of educational programs at midwifery internship medical institutions, it is suggested that education in midwifery be handled by specialized organizations such as university educational institutions or the Korean Midwives Association. Practical training should be conducted at designated internship medical institutions, emphasizing hands-on perinatal nursing practice and midwifery training to improve educational efficiency.

Another approach involves integrating midwifery into the graduate-level advanced practice nursing program. Currently, nurse-midwives who are trained through the midwifery internship process are recognized as medical personnel, yet they are not considered advanced practice nurses. In contrast, in the United States, midwives undergo training in graduate master's programs that include advanced practice nursing education, actively engaging in specialized nursing practices in women's health. Therefore, South Korea should establish a separate 2-year midwifery/women's health advanced practice nursing program within graduate nursing schools. This program would run concurrently with the existing 1-year midwifery internship program, thereby broadening the training opportunities for specialized personnel in women's health, including midwives. To implement these improvements, collaboration with the Ministry of Health and Welfare, the Korean Nursing Association, the Korean Midwives Association, and the Korean Accreditation Board of Nursing Education is needed.

To improve the competencies of women's health nurses and obstetrics clinical nurses in obstetrics and gynecology departments, hospitals should implement systematic job competency education and training programs in collaboration with specialized organizations in women's health. Additionally, these nurses should first have the opportunity to participate in midwifery internships, enabling them to acquire midwifery licenses and practice with greater expertise. This approach will ensure the provision of safe nursing care to pregnant women and other clients in women's health, leading to better health outcomes.

Conclusion

This study examined the training processes for nursing personnel specializing in women's health, focusing on their role in managing the health of pregnant women and infants. This exploration occurred within the framework of policies designed to address the challenges of a changing healthcare landscape and declining birth rates. The study assessed the impact of expanded roles for these professionals and suggested strategies to enhance both their numbers and their capabilities. To effectively respond to these challenges, stakeholders in women's health must work collaboratively across disciplines to develop and implement training programs. These programs should provide the essential skills needed for projects at both national and local levels. Such initiatives are expected to significantly boost the engagement of well-trained nursing personnel, thereby contributing to public health.
Ahn S • Nursing workforce for women’s health

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Authors' contributions
All work was done by Ahn S.

Conflict of interest
Sukhee Ahn has been a statistical editor of Women’s Health Nursing since January 2023. She was not involved in the review process of this editorial. Otherwise, there was no conflict of interest.

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Data availability
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References

Maternal postpartum health and its impact on health and development of young children

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Introduction

With the increasing global prevalence of non-communicable diseases, such as diabetes [1], maternal health after childbirth rarely garners comparable attention, except for occurrence of maternal mortality. Indeed, it is devastating to hear that in 2020, it is estimated that 287,000 women globally lost their lives from pregnancy-related causes that occurred either during pregnancy, childbirth, or the first 42 days after giving birth [2]. While most of those deaths occurred in middle- and low-resource countries, at least one high-resource country—the United States—has actually experienced a rise in maternal mortality in recent years [3]. That rise in the United States has spurred new research initiatives, and a wide range of clinical and health system changes and community partnerships focused on reducing maternal mortality.

Though most women survive pregnancy, childbirth, and the postpartum period, they may still face challenges to their health that often receive little attention. These conditions may take many forms, ranging from issues related to mental health and well-being, such as postpartum depression, to challenges in physical health and functioning, such as urogenital conditions [4,5]. Such mental and physical conditions reduce the quality of life for women and may continue after the first 6 postpartum weeks [4,5], when pregnancy-related healthcare has ceased. That women's health after the early postpartum weeks has received limited attention, except perhaps for postpartum depression, is consistent with the overall disparate attention to women's health problems compared to those of men [6].

As debilitating and stressful as certain postpartum mental and physical health conditions may be for women themselves, it is important to also consider how such maternal health problems may affect the health and development of their children. The division of healthcare and scientific literatures dealing with maternal and child health into obstetrics and pediatrics may partly contribute to potential gaps in our understanding of the effects that maternal health may have on infants and children. Thus, the aim of this paper is to examine briefly scientific literature on the relationship of postpartum maternal health to the health and development of infants and young children in order to identify issues, gaps, and opportunities.
Postpartum mental health and its relationship to child health and development

Among postpartum mental health conditions, postpartum (also called postnatal) depression stands out both in terms of its global prevalence of 17% [7] and the large volume of scientific attention it has received over time [8,9]. What is clear from reviews looking comprehensively at postpartum depression is that it is a complex phenomenon that is best understood from an integrative perspective that incorporates biological and psychosocial contributing factors [8]. Symptoms of postpartum depression may include sadness, anhedonia, sleep problems, difficulty concentrating, guilt, and anxiety that arise after pregnancy that are not a continuation of pre-existing depression [9]. The gold standard for diagnosing postpartum depression is a clinical interview by a healthcare provider with training in mental health. However, a number of studies also have utilized self-report depressive symptoms scales that have cutoff scores for risk of depression, such as the Edinburgh Prenatal Depression Scale (EPDS) [8,9].

Although a devastating condition for women to experience, both postpartum depression and elevated depression symptoms measured by scales are associated with infant and child adverse outcomes [9]. This is especially true if maternal depression is untreated. In a comprehensive review of 67 studies of postpartum depression, Slomian et al. [9] reported the maternal postpartum depression was associated with adverse effects on infant growth, physical health, and multiple domains of development. The review showed that effects of depression on infant growth were generally more marked among infants in lower-resource countries, with infant weight lower when mothers were depressed compared to when mothers were not. Two child health indicators, diarrhea and infant mortality were higher among children of depressed mothers, primarily in studies of samples in lower-resource countries.

In regard to the effects of postpartum depression in a higher-resource country, a recent population-based study in Israel provides insight into the impact of maternal depression on children’s development during the first 2 years of life [10]. In this sample of over 90,000 postpartum women, 4.7% were screened positive for depression on the EPDS at 6 to 9 weeks after giving birth. Infants’ achievement of developmental milestones in four domains (language, personal social, fine motor and gross motor) were monitored at periodic clinic visits from 1 to 24 months of age. Over the 2 years of monitoring, postpartum depression was associated with less achievement of developmental milestones in all four domains, but most strongly with developmental delays in language and personal social development [10].

A study in the United Kingdom that drew on data from the Avon Longitudinal Study of Parents and Children sheds light on the behavioral development of young children with depressed mothers [11]. Postpartum depression was categorized as moderate, marked, and severe based on EPDS scores of 9,848 mothers. Behavioral problems were assessed by maternal reports of children’s behaviors at 3.5 years on the Rutter Total Problems Scale. Regardless of the level of depression at 2 months postpartum, it was associated with approximately twice the odds of children having behavioral problems at age 3.5 years. When depression was severe and persisted after the immediate postpartum period, it had more adverse effects on children’s behavioral problems [11].

While the literature on postpartum depression and child outcomes is both vast and complex, it is clear that such depression has the potential to affect physical health, development, and psychosocial adjustment in young children. The extent of that impact may vary with some effects, such as effects on child physical health, being most adverse among those in lower-resource countries. Clearly the larger caregiving milieu and resources in the family can lessen or magnify effects of maternal depression on young children. However, early childhood is a vulnerable period of development during which maternal depression may put child survival at risk in low-resource countries. Even in more resource-rich countries, postpartum depression may put young children’s well-being at risk across multiple domains.

Postpartum physical health and its relationship to child health and development

Maternal mortality is the most dire health outcome for women related to childbirth and it additionally may have a major impact on infants, children, and their families. That impact is most severe in low-resource countries where services are limited. For example, a longitudinal study examined child survival in a rural region of Ethiopia [12]. When mothers died (from maternal and non-maternal causes) shortly after birth or during the first year after childbirth, their infants were more likely also to die compared to infants whose mothers survived. And those infant deaths were more likely to occur in the first month after birth [12]. Deaths of young infants were often associated with being undernourished, an outcome of loss of maternal care and breastfeeding [13].

The adverse impact of maternal deaths on infant survival replicates findings of earlier global studies [12]. Surviving children of...
mothers who died during the first year after childbirth also were less likely to attend school than children with surviving mothers, with girl children often taking on household responsibilities in the family [12,13]. These findings exemplify the importance of maternal survival to child survival and developmental opportunities in low-resource countries. And those negative effects may extend beyond the health and survival of children. For example, a study in Ghana showed the overall effects of maternal death on the family were widespread and associated with financial hardship, grief among survivors, and often placement of surviving children with other family members [14].

More generally, what is known about the impact of maternal general and physical health on child health and development? The study of this topic primarily has focused on adolescents rather than younger children [15]. But several studies highlight the vulnerability of young children. An early study in the United States using the 1988 Maternal and Infant Health Survey, a longitudinal population-based dataset, examined multiple indicators of maternal health and outcomes of children. Mothers’ physical health after pregnancy, assessed by number of doctor visits or hospitalizations, was significantly associated with poorer child health ratings at age 3 years [16].

Two more recent Australian studies provide additional insights into the relationship of maternal general and physical health on young children’s health and development. The first study used data from 5,019 infants born in 2002 to 2003 in the Longitudinal Survey of Australian Children. Results showed that mothers’ less positive ratings of their health were associated with less positive ratings of their infants’ health [17].

The second study utilized linked administrative data on mothers’ and fathers’ health (based on having a chronic disease) with the 2009 Australian Early Development Census. Associations assessed were between parental health and the developmental outcomes at 5.5 years of 19,071 children [15]. During the study period, prevalence of a chronic disease was 7.3% for mothers and 6.8% for fathers. Having a mother with a chronic disease increased the odds of a daughter being classified as developmentally “vulnerable/at risk” in three domains: physical health and well-being, social competence, and communication skills and general knowledge. Having a mother with a chronic disease increased the odds of a son being classified as developmentally “vulnerable/at risk” only in the language and cognitive skills domain. However, having a father with a chronic illness was not associated with either daughters or sons being classified as “vulnerable/at risk” on any developmental domain [15]. These findings underscore the importance of maternal health to child health, especially for girl children.

Discussion

Overall, the studies cited here give snapshots of the varied impacts that maternal health problems—both mental and physical—may have on health and development of young children. My intent in this paper was not to do a systematic review of this topic, but to highlight key findings and draw attention to the potential effect that maternal mortality and poor health may have on children. An extensive review of maternal mortality and morbidity globally is available elsewhere, which also considers human immunodeficiency virus and its effects [18].

While maternal mortality and its effects on young children are profound in lower-resource countries, in higher-resource countries maternal chronic diseases may pose the more common risk to children’s health and development. However, a common thread in both situations is the need for support and services from the healthcare sector and the larger community. The support and services needed to protect children from poor development and health outcomes will vary widely depending upon family and caregiver needs to sustain a nurturing, safe, and healthy environment for young children. For example, in the study cited earlier in Ghana of family survivors after a maternal mortality, family and community support was high through the funeral but dissipated afterwards [14]. Thus, systems of care in the healthcare and social care sectors that can fill gaps are needed, whether in primary care or integrative maternal and child health care. And those care services would be most effective if provided with a family focus to provide a robust scaffolding for child health and development.

Nurses and midwives can and do play an important role in protecting maternal health during pregnancy, birth, and the postpartum period through their direct care, counseling, and linking women and young children to community services. Such nursing care is a critical foundation for supporting child health because of its pivotal role of maternal health to child health, as briefly shown here. Because the current resources of families, communities, and countries may vary, interventions and programs that nurses and midwives may develop, or advocate for, will need to be tailored to the situational context. Such services may be especially important for girl children [15].

In conclusion, maternal mortality and mental and physical health have important consequences for health and development of infants and young children. Maternal mortality poses more extensive threats to maternal health and consequently child health.

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and development in lower-resource countries compared to higher-resource ones. However, mental health conditions have no economic boundaries and affect women in varying contexts thereby affecting child health and development. More attention in practice and research needs to be given to how to protect maternal health in order to protect the health and development of young children.

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보호출산제 시행과 젠더 및 보건의료 이슈

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Gender and healthcare issues related to the Protected Birth Act in Korea

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서론: 보호출산제 도입 배경

2023년 3월 23일, 헌법재판소는 "가족관계의 등록 등에 관한 법률" 제46조 제2항 '혼인외 출생자의 신고는 모(母)가 해야 한다'는 위헌"이라며 낸 헌법소원사건(2021헌마975)에 재판관 전원일치 의견으로 헌법불합치 결정을 했다[1]. 남편이 있는 여성과의 사이에서 자녀를 낳은 A씨 등은 가족관계등록법에 따라 혼인 외 출생자들의 출생신고를 할 수 없게 되자 2021년 8월 자녀들과 함께 헌법소원을 내었고, 이에 헌법재판소는 "혼인 중 여자와 남편 아닌 남자 사이에서 태어난 자녀는 출생신고가 곤란한 상황이 발생해 사회보험·사회보장 수급을 제대로 받지 못하고 주민등록이나 신분 확인이 필요한 거래를 하기 어려우며 학대당하거나 유기되기 쉽고 범죄의 표적이 될 가능성이 높다"면서 "혼인 외 출생자인 청구인들의 태어난 즉시 '출생 등록될 권리'를 침해한다"고 설명했다. 또 "태어난 즉시 '출생 등록될 권리'는 '출생 후 아동이 보호받을 수 있을 최대한 이른 시점'에 아동의 출생과 관련한 기본 정보를 국가가 관리할 수 있도록 등록할 권리로서 아동이 사람으로서 인격을 자유로이 발현하고, 부모와 가족 등의 보호 하에 건강한 성장과 발달을 할 수 있도록 최소한의 보호장치를 마련하도록 요구할 수 있는 권리"라고 강조했다.

또, 지속적으로 우리 사회에 충격을 주었던 영아살해·영아유기죄가 오랜 기간 논의되다가 이를 폐지하는 내용의 "형법" 개정안이 2023년 7월 18일 국회 본회의를 통과했고 2024년 2월 9일로 폐지되었다. 기존의 "형법"에서 영아살해죄는 '격제존속이 치유를 은폐하기 위하여 약류할 수 없음을 예상하거나 특히 착각할 만한 동기로 영아를 살해 또는 유기한 경우, 최대 정의 10년으로 일반 살인죄나 유기죄보다 감경해 처벌하고 있었는데, 최근 영아가 빠져나고도 출생신고 없이 유기되거나 살해되는 사회적 문제에 대한 높은 국민적 관심과 우려를 반영해 법 조항을 개정하여 영아를 살해·유기한 경우에도 일반살인·유기죄를 적용하도록 함으로써 저항 능력이 없거나 현저히 부족한 사회적 약자인 영아의 생명권을 더욱 보호하도록 했다[2].

이러한 사회적 요구와 법제 개편은 부모에게만 출생신고 의무가 주어졌던 것에 대하여 가족관계에 관한 법률을 개정하여, 출산을 맡았던 의료기관의 장에게도 신고 의무가 주어지도록 당위성을 부여해 주었다. 또 같은 해 경기도 수원의 한 아파트 냉장고에서 영아 시신 2구가 발견된 사건과

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Summary statement

This paper discusses the implications of the birth notification system and the Protected Birth Act in Korea. Aiming to prevent infanticide and abandonment of infants, the law will enter into force on July 19, 2024 in South Korea. The birth notification system mandates that both parents and the head of the medical institution where the birth occurred must report the event. In parallel, the Protected Birth Act will be implemented, allowing pregnant women in crisis who wish to remain anonymous, the option to give birth outside of a hospital setting in a way that safeguards the life and health of the child.

However, many issues are being raised in Korean society in advance of the implementation of the Protected Birth Act. There is widespread concern that the Protected Birth Act fails to protect either women or children, especially as it raises issues regarding the need for legislation to protect children with disabilities and to address gaps for migrant women and children.

This paper examines the gender and healthcare issues relating to the Protected Birth Act, focusing on women's health and human rights. The Act continues to perpetuate discrimination against out-of-wedlock pregnancies and upholds the ideology of the traditional family model. Furthermore, the legislative process did not address protective measures for the various reasons behind child abandonment. Critical issues such as women's autonomy, safe pregnancy termination, and paternal responsibility in childbirth are also notably absent. However, with the Act set to take effect soon, it is crucial for healthcare providers to comprehend the rationale and procedures associated with birth notification and the Protected Birth Act, and to prepare for its nationwide implementation. The law defines the socially vulnerable as its main beneficiaries, and it is necessary to strengthen social safety nets to improve their access to healthcare, eliminate prejudice and discrimination against out-of-wedlock pregnancies, and embrace the diversity of our society. We eagerly anticipate future discussions on gender and healthcare issues, as well as amendments to the law that reflect real-world circumstances to provide genuine protection for pregnant women in crisis and their infants.
적시된 바와 같이 경제적·심리적·신체적 사유 등으로 인하여 출산 및 양육에 어려움을 겪고 있는 임산부의 안전한 출산을 지원하고 그 희망과 사랑인 아동의 안전한 양육환경을 보장할 목적으로 제정되었다. 위기임산부에 대한 상담, 보호출산, 아동보호, 출생증서 정보공개, 그리고 이의 실현을 위한 국가와 지방자치단체의 책무를 규정하였고, 주요 내용은 다음과 같다.

○ (상담) 위기임산부가 신중하게 보호출산을 선택할 수 있도록 충분한 상담 및 임신·출산·양육지원 정보 제공을 위한 상담체계 구축·운영
  ① 위기임산부를 위한 지역상담기관이 지정되고, 위기임산부는 언제든지 지역상담기관에서 출산 후 직접 아이를 키울 수 있도록 돕는 상담, 정보 제공 및 서비스 연계를 받을 수 있다. 각종 법령에 따른 사회보장 급여와 직업·주거를 위한 지원, 의료비 지원 같은 경제적 지원뿐 아니라 양육비 이행 확보를 위한 지원 같은 법률적 지원까지 상담과 서비스 연계를 받을 수 있도록 규정하였다.
  ② 지역상담기관을 지원하는 중앙상담지원기관도 설치된다. 중앙상담지원기관에서는 위기임산부의 출산·양육 지원과 아동 보호를 위한 상담 내용, 절차를 개발·보급하고 교육을 실시한다.
  ③ 지역상담기관에서는 위기임산부가 출산 전후에 주거와 돌봄을 지원받을 수 있도록 한부모가족 복지시설이나 사회복지시설에 연계할 수 있게 된다. 이에 더해 관계 법령에 따라 출산 후 산후조리도 지원할 수 있다.

○ (보호출산) 보호출산을 신청한 산모가 의료기관에서 가명으로 산전검진 및 출산할 수 있도록 비식별화 조치, 비용 지원 등 시행
  ① 임산부가 보호출산을 원하는 경우에는 지역상담기관에서 보호출산 절차와 법적 효력, 자녀의 알 권리와 그것이 자녀의 발달에 미치는 영향 등 자녀의 권리 등에 대해 다시 상담을 한 뒤 보호출산 신청을 받는다.
  ② 보호출산을 신청할 때 가명과 관계번호(주민등록번호를 대체할 수 있는 가명 처리를 위한 번호)가 생성되고, 임산부는 이 가명과 관리번호를 사용해 의료기관에서 산전 검진과 출산을 할 수 있다. 이 경우 의료비는 전액 지원된다.

○ (아동보호) 태어난 아동에 대한 지자체 인도, 출생등록 및 보호조치(입양, 시설보호 등)의 절차 마련
  ① 아이가 보호출산으로 태어난 후 임산부는 최소한 7일은 아동을 직접 얻어주기 위한 숙려기간을 가져야 하고, 이 기간이 지난 후에 지방자치단체에 아동을 인도할 수 있다. 아동을 인도받은 지방자치단체장은 지체 없이 「아동복지법」에 따른 보호조치를 하여야 하며, 입양 등의 보호 절차를 벌게 된다.

○ (기록관리) 상담·출생 기록 작성·보관, 출생증서 공개 절차·요건 등
  ① 어머니는 보호출산을 신청할 때 자신의 이름, 보호출산을 선택하기까지의 상황 등을 작성하여 남겨야 한다. 이때 작성한 서류는 지방자치단체장에 영구 보존되며, 보호출산으로 태어난 사람은 성인이 된 후에, 또는 법정대리인 동의를 받아 이 서류의 공개를 요청할 수 있다.

보호출산제와 젠더 이슈

많은 나라들이 위기임신에 대한 사회적 안전망의 필요성을 절감하고 국가적 노력을 기울이고 있다. 독일, 프랑스, 미국 등 주요국에서도 다양한 방식으로 '익명 출산에 대한 권리를 보장하고 있는데, 특히 독일에서는 2013년 신뢰출산법(Vertrauliche Geburt)을 제정해 2014년부터 시행하면서 위기임산부 보호를 법률로 정하고 있다. 위기임산부 지원을 위한 '임신갈등 상담소(Pro Familia Berlin)'를 설치, 운영하고 있다. 친모가 익명으로 출산 시 정부가 아이의 성을 정하고, 자녀가 16세가 되면 친생모 신상정보가 포함된 출생 증명서 열람이 가능하도록 해 아동의 부모 알 권리를 보장한다. 또한 임신갈등 상담소는 홈페이지와 24시간 전국 핫라인 등을 통한 익명 상담으로 신뢰출산제 및 지원 정책에 대한 정보를 충분히 제공하며 임신 중단을 포함한 임산부의 자기결정을 최대한 지원하며, 아동이 불가능할 경우에도 아동보호를 위해 해를 끼칠 수 있는 예방적 조치를 취하도록 하고 있다. 이에 따라 관계 법령에 따라 출산 후 산후조리도 지원할 수 있다.

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  ① 위기임산부를 위한 지역상담기관이 지정되고, 위기임산부는 언제든지 지역상담기관에서 출산 후 직접 아이를 키울 수 있도록 돕는 상담, 정보 제공 및 서비스 연계를 받을 수 있다. 각종 법령에 따라 사회보장 급여와 직업·주거를 위한 지원, 의료비 지원 같은 경제적 지원뿐 아니라 양육비 이행 확보를 위한 지원 같은 법률적 지원까지 상담과 서비스 연계를 받을 수 있도록 규정하였다.
  ② 지역상담기관을 지원하는 중앙상담지원기관도 설치된다. 중앙상담지원기관에서는 위기임산부의 출산·양육 지원과 아동 보호를 위한 상담 내용, 절차를 개발·보급하고 교육을 실시한다.
  ③ 지역상담기관에서는 위기임산부가 출산 전후에 주거와 돌봄을 지원받을 수 있도록 한부모가족 복지시설이나 사회복지시설에 연계할 수 있게 된다. 도와 관계 법령에 따라 출산 후 산후조리도 지원할 수 있다.

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  ① 어머니는 보호출산을 신청할 때 자신의 이름, 보호출산을 선택하기까지의 상황 등을 작성하여 남겨야 한다. 이때 작성한 서류는 지방자치단체장에 영구 보존되며, 보호출산으로 태어난 사람은 성인이 된 후에, 또는 법정대리인 동의를 받아 이 서류의 공개를 요청할 수 있다.

이렇듯 위기임산부 보호라는 사회적 요구는 전 세계 공통적으로 논의되고 있는 사안인 만큼 우리나라 정부도 법제 정비와 더불어 '출생통보 및 보호출산 제도 시행 추진단'을 결성해 출생통보제와 보호출산제 시행을 위해 정부·지자체·법원 행정처가 힘을 모으고, 유관 기관(국민건강보험공단, 심평원, 사회보장정보원, 아동권리보장원)과의 협업으로 2024년 7월 19일 예정된 제도 시행을 차질없이 준비 중이라고 밝혔다[5].

그러나 보호출산제 시행을 앞두고 우리 사회에는 여러 문제가 제기되고 있다. 보호출산제는 장애아동에 대한 보호조치, 이주여성과 아동의 공백 해결을 위한 입법이 필요하다는 문제 제기와 함께 '여성도 아동도 보호하지 못하는 제도'라는 견해가 대표적이다[11-14]. 특히 여성과 아동의 권리에 대한 비판은 「위기임신보호출산법」 제정 전후 시민사회단체와 여성변호사회[13], 국회[14] 등 각종 포럼 등에서 공통적으로 확인할 수 있는데, 이 법은 근본적으로 미혼모를 숨어서 출산하게 하고 양육 포기의 수많은 사유들을 해결하지 못하고, 보호출산으로 태어난 사람의 출생증서 공개를 청구하여도 생모와 생부의 동의를 받아야 하며, 아동의 정체성을 알 권리가 심각하게 침해되고 있다는 것이다. 실제로 2014년부터 익명 출산이 가능한 독일의 경우 우리나라의 보호출산제와는 달리 익명 출산과 아동의 부모 알 권리를 균형 있게 보장하고 있으며, 신뢰출산은 최추의 수단으로 권고하고 있어 제도의 부작용을 최소화할 수 있는 방안을
마련했다고 볼 수 있다. 여기에는 우리가 중요하게 다루어야 하는 사회적 의제인 ‘정상가족 담론’에 대한 노력이 필요하다 [12].

독일에서는 흔한 외의 자와 혼인 중의 자에 대한 법체계 내에서의 구별을 완전히 없앴고, 그로써 차별과 인간이 사라지게 하는 파생적 효과를 가져오고 있다. 그러나 우리나라의 보호출산제는 근본적으로 보호출산에서 보호하고자 하는 위기임산부를 혼인 외 비정상 가족으로 상정하고, 미혼모를 ‘숨어서 출산하고 싶어 하고 양육을 포기하는 사람’으로 전제하고 있다. 미혼모는 철없고 부도덕하며 자기 관리가 안되는 것으로 폄하되고, 정조를 중시하는 유교 문화가 뿌리 깊은 우리 나라에서 사회의 지탄의 대상이 되면서 ‘정상가족 이데올로기’와 연결되어 차별과 편견의 대상이 되었다. 이것은 「건강가정기본법」에서 적시된 바와 같이 ‘정상가정’을 기본값으로 상정하여 전반적인 법 제도가 설계되어 있어 법률혼만을 법에서 인정하는 혼인으로 보고 그로부터 파생된 가정만을 법에서 인정하여 보호하고 있기 때문에, 결국 소위 ‘정상가정’의 개념 아래 혼인외 자와 혼인 중 자의 차별을 전제로 한 법일 수밖에 없다. 따라서 양육 포기의 수많은 사유에 대한 보장적 장치들이 마련되어 있지 않고 법 제정 과정에서도 논의되지 않았다는 점이 문제라 생각한다.

또한, 출산통보제 시행으로 의료기관 밖 출산의 위험에 노출될 가능성이 있는 위기임산부를 위해 제정된 만큼, 「위기임신보호출산법」 내 여성의 당사자성과 주체성을 실질적으로 보호할 수 있는 장치들을 보완하여야 할 것이다.김[15]은 최근 5년 내 임산 중단을 경험한 만 19-44세 여성 602명을 대상으로 한 연구에서, 가장 최근 임신 중단 시 연령은 20대 이하가 52.7%(19세 이하 4.5% 포함), 혼인 상태는 비혼이 51.3%, 주관적으로 인지는 사회적응 건강이 6.6%, 중증이 42.7%, 비중이 50.7%라고 보고하며 보호출산제가 보호하고자 하는 대다수의 위기임산부가 포함되어 있음을 알 수 있다. 이 이상 사회적 합의가 이루어지지 않는다는 이유로 여성의 임신을 중단할 권리에 대한 논의를 이루어 더 많은 위기임산부를 양산해온다는 것이된다.

마지막으로, 「위기임신보호출산법」에도 여전히 아버지의 존재는 철저히 숨겨져 있고, 출산 후 돌봄의 책임은 오직 미혼동산부가 출산한 여성에게만 주어지고 있음을 알 수 있다. 물론 위기임산부가 양동을 직점 양육할 수 있도록 「국민기초생활보장법」, 「한부모가족지원법」, 「국민건강보험법」, 「모자보건법」 등에서 임신 수준 지원방을 수 수할 수 있으나, 이는 보편적 지원으로 위기임산부의 특별 상황을 고려한 전문적 지원이라 할 수 없고, 출산 여성에게만 돕음을 책임지지 않고, 책임지지 않는 여성을 비난하는 사회 문제에 빗나갈 수 있다. 또 제2조 2항에서 「양육비 이용확보 및 지원에 관한 법률」에 따라 양육비 이용 확보를 지원한다고 적시되어 있으나, 우리 또한 양육비 이용이 실효적이지 않음을 자명하다. 여성가족부에서 발표한 2021년 한부모가족 실태조사[16]에 따르면 법적 양육비를 지급해도 할 때에도 받는 것이 많다고 응답한 비율이 72.1%로 상당수 차지하고 있는바, 현실에서도 실효적이지 않은 법 조항을 적시하는 수준이다. 양육비는 헌법에서 보장되는 생명권과 행복추구권과 직접적인 예제이지만 현재의 법과 제도에서는 양육비를 주지 않아도 그다지 문제가 되지 않는 인식이 강하게 자리잡고 있는 것도 우리 사회가 풀어야해야 할 과제이다. 출산이 있어 아버지의 책임이 부재한 상태를 더 이상 방치해서는 안 될 것이다.

보호출산제와 보건의료 이슈

보건의료 분야 종사자는 새롭게 시행되는 출생통보제와 보호출산 제 추진 배경과 절차를 정확히 이해하고, 준비해야 한다. 보호출산을 신청한 위기임산부에게 전산 관리번호와 가명을 부여하여 출산 사실을 기록하지 않도록 하고, 위기임산부에게 '임신부 확인서'를 발급하여 의료기관에서 가명으로 진료받을 수 있도록 하는 등 의료 현장에서의 시행 절차와 태도에 대한 충분한 교육 또한 필요하다. 또한, 법에서 규정하고 있는 대상자들은 우리 사회가 보호해야 하는 사회적 약자로, 한부모와 미혼모에 대한 변제와 차별을 없애고 다양성을 수용하는 태도가 필요하다. 특히, 일차의료기관의 의료인은 위기임산부를 최초 또는 초기부터 대면하는 접점으로서 임산부가 자기결정권과 모성권을 부정당하거나 존중받지 못한다고 느끼지 않도록 임산부 개개인의 삶에 대한 인정과 존중, 변제 없이 치료를 가질 것이 강하게 요구된다. 의료법은 의료인에게 생명윤리나 의료에서 윤리적 문제들에 대한 인식을 갖추기 위해 초점을 맞추고 있으나, 민감한 사회적 감수성에 기초한 공감과 이해, 변제를 담고 있는 한계를 가질 것이며 역량을 기울여야 한다. 더불어 독일에서 시행하고 있는 '아동 주치의 제도'와 서울시에서 2018년부터 시행 중인 '서울아기 건강 첫걸음 양육지원 사업'[17]을 벤치마킹한다면 위기임산부 지원에 의료인의 역할이 더욱 강화될 것이다. "서울아기 건강 첫걸음 양육지원 사업"은 출산한 모든 임산부와 신생아를 대상으로 4주 이내에 전문 간호사가 가정방문을 실시하고(보편방문). 임산부와 신생아에게 건강 위험요인이 있으면 신생아가 2세 될 때까지 25회(지속방문) 방문을 통하여 건강관리를 하는 사업이다. 이 사업은 임산부가 산전과 후에 겪는 사회적, 심리적 어려움에 대처하고 신생아 양육역량을 강화할 수 있도록 보건병, 지속방문, 부모 모임, 연계 서비스 등을 제공하며, 영유아 최선의 건강 발달을 할 수 있도록 다양한 교육을 제공한다.
또 의료기관 접근권도 중요한 이슈이다. 국가에서는 임산부에게 건강한 태아의 분만과 산모의 건강 관리에 의한 산전후 관리를 위한 진료비 일부를 국민행복카드로 임신 1회당 100만 원(다태아 임산부는 140만 원)을 지원한다. 그러나 양육 미혼모 146명 중 41명은 국민행복카드를 모르거나 사용하지 않는다는 한국미혼모가족협회 조사 결과[14]는 임산부에게 정확한 의료정보를 제공하는 사회적 안전망이 필요함을 보여준다. 한편 2021년 국민건강영양조사에 따르면 최근 1년 동안 본인이 병원(치과 제외) 진료(검사 또는 치료)가 필요하였으나 받지 못한 분율(%)이 미측저 의료비용의 원이 6.7%라고 보고되었다[18]. 미측저 의료의 원인은 의료기관 접근성, 의료비 부담 등 물리적, 경제적 요인뿐 아니라 환자의 지식, 태도, 불안이나 우울 등의 정서적 요인, 진료 또는 2차 의료에 대한 두려움, 사회적 지지 결여 등으로 의료기관을 찾지 못하는 수용성 등 다양한 요소들과 관련이 있다. 미측저 의료비용에 위기임산부가 처지하는 비율에 대한 조사 결과는 많다. 실제로 한국미혼모가족협회 조사에서 양육 미혼모들이 병원비가 부담스럽거나, 병원을 가기 전에 미처가거나, 병원을 가는 것 자체에 두려워서 병원 진료를 받지 않는다고 답하고 있는 것으로 미루어[14] 미측저 의료임이 절대로 적정한 수준을 충족하는 모습을 보인다. 즉 위기임산부와 같이 미측저 의료 경험이 높은 취약계층에 대한 정책적 지원을 허용해야 다양한 취약한 정의의 본질과 해결책, 그리고 그를 덜받침잡은 출산사회안전망이 필요하다는 것을 시사한다.

결론: 보호출산제 전망과 제안

보호출산제는 그동안 위기 상황에 놓이던 임산부들의 출산·양육을 돕고, 긴장한 상황에 대해 민간 활동단체에서 담당하였던 사회적 안전망을 국가가 체계적으로 보호하고자 했다는 데 의의가 있다. 특히 사회적 취약계층인 미혼모, 청소년 미혼모와 같이 임신과 출산에 대한 불안정, 차별 및 낙인을 겪는 경우 원 가족뿐만 아니라 사회적 지원체계가 불비한 우리 사회에서 어떠한 보호책이 없이 개인적으로 더욱 고립되고 취약해질 수밖에 없다는 제안은 개별적, 정책적, 사회적, 경제적, 정신적 지원의 필요성을 시사한다. 보호출산제 시행의 대수리의 임산부의 경우 사회에 그를 두려워 느끼며, 병원비가 부담스럽거나, 병원을 가기 전에 미처가거나, 병원을 가는 것 자체에 두려워서 병원 진료를 받지 않는 것으로 미루어[14] 미측저 의료임이 절대적인 수준을 충족하는 모습을 보인다. 즉 위기임산부와 같이 미측저 의료 경험이 높은 취약계층에 대한 정책적 지원을 허용해야 다양한 취약한 정의의 본질과 해결책, 그리고 그를 덜받침잡은 출산사회안전망이 필요하다는 것을 시사한다.

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Authors' contributions

All work was done by Jeong J.

Conflict of interest

The author declared no conflict of interest.

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Development of a lesbian, gay, bisexual, and transgender cultural competence scale for nurses in South Korea: a methodological study

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Purpose: This study was conducted to develop a cultural competence scale for nurses regarding the lesbian, gay, bisexual, and transgender (LGBT) community and to test its validity and reliability.

Methods: The study adhered to the 8-step process outlined by DeVellis, with an initial set of 25 items derived through a literature review and individual interviews. Following an expert validity assessment, 24 items were validated. Subsequently, a preliminary survey was conducted among 23 nurses with experience caring for LGBT patients. Data were then collected from a final sample of 322 nurses using the 24 items. Item analysis, item-total score correlation, examination of construct and convergent validity, and reliability testing were performed.

Results: The item-level content validity index exceeded .80, and the explanatory power of the construct validity was 63.63%. The factor loadings varied between 0.57 and 0.80. The scale comprised five factors: cultural skills, with seven items; cultural awareness, with five items; cultural encounters, with three items; cultural pursuit, with three items; and cultural knowledge, with three items; totaling 21 items. Convergent validity demonstrated a high correlation, affirming the scale’s validity. Internal consistency analysis yielded an overall reliability coefficient of 0.97, signifying very high reliability. Each item is scored from 1 to 6 (total score range, 21–126), with higher scores reflecting greater cultural competence in LGBT care.

Conclusion: This scale facilitates the measurement of LGBT cultural competence among nurses. Therefore, its use should provide foundational data to support LGBT-focused nursing education programs.

Keywords: Culture; Nurses; Sexual and gender minorities

Introduction

Diverse cultures coexist and are accepted in South Korea (hereafter referred to as Korea); however, lesbian, gay, bisexual, and transgender (LGBT) individuals often exist on the margins as a minority within a predominantly heterosexual society [1]. The social stigma surrounding LGBT identities leads some individuals to conceal their orientation or gender identity, resulting in limited and potentially inaccurate statistical data on the LGBT population [2]. Estimates of the number of LGBT people in Korea vary, with figures ranging from 1.81 million to 2.69 million [3].

As a social minority, LGBT people are sometimes associated with certain diseases and can be targets of hatred due to negative perceptions and prejudice [4]. Among other social minority groups in Korea, such as North Korean refugees, people with disabilities, and foreign workers, LGBT people encounter the most intense negative stereotypes and prejudice [5]. According to the 2017–2022 World Value Survey 7th Wave, 79.6% of Koreans in-
Culture refers to the integrated aspects of human behavior, including language, thought, behavior, customs, and beliefs. These elements influence individuals’ health beliefs, perceptions of illness, healthcare utilization behaviors and attitudes, and understanding and acceptance of care [10]. Consequently, cultural competence—the ability of healthcare providers to effectively care for and accept individuals from diverse cultural backgrounds—is of paramount importance in healthcare settings. Cultural competence enables nurses to understand and respect the values, attitudes, and beliefs of patients from various cultures [11]. Therefore, it is imperative for nurses to possess cultural competence to engage with clients from diverse backgrounds without prejudice and discrimination and to address their diverse needs [12].

Limited research on LGBT health is available within the nursing literature, with only a few publications addressing LGBT health issues [13]. A lack of understanding among nurses regarding LGBT individuals may impede their ability to deliver culturally competent care. Various instruments have been employed in previous studies to measure nurses’ cultural competence concerning LGBT populations. These include the Attitudes Toward Lesbians and Gay Men Scale by Herek [14], the Knowledge About Homosexuality Questionnaire by Harris et al. [15], and the Gay Affirmative Practice Scale by Crisp [16]. However, these studies generally have not represented all LGBT people, and only a limited number of cultural competence dimensions—such as knowledge, attitudes, behaviors, and beliefs—have been explored in the existing research.

Therefore, the cultural competence instruments developed thus far face challenges in capturing the social understanding and cultural characteristics of LGBT individuals. Consequently, the measurement of cultural competence regarding LGBT populations has been limited, especially in nursing research. This study was conducted to develop an instrument designed to measure LGBT cultural competence among nurses. By grounding the measure in the concept and components of cultural competence, the goal is to promote comprehensive healthcare delivery, improve the quality of healthcare services, and reduce discrimination and prejudice.

Methods

Ethics statement: This study was approved by the Institutional Review Board of Keimyung University (40525-202105-HR-016-02). Informed consent was obtained from the participants.
Study design
This methodological study was designed to develop a measure of LGBT cultural competence among nurses and to evaluate its validity and reliability.

Development of the instrument
Conceptual framework
This study utilized the conceptual framework of the Campinha-Bacote model [17], which delineates the process of cultural competence in healthcare service delivery. This model integrates five components: cultural awareness, cultural knowledge, cultural skill, cultural encounters, and cultural desire, which are essential for nurses providing care to LGBT individuals. The Campinha-Bacote model [17] describes the practice in which healthcare providers deliver inclusive care, recognizing that cultural diversity extends beyond race and nationality to include sexual orientation and gender identity [18].

Study procedures
This study followed the eight-step tool development process outlined by DeVellis [19]. The specific research process is as follows (Figure 1).

Step 1: instrument components
A literature review and individual in-depth interviews were conducted to identify components of the instrument. The literature

<table>
<thead>
<tr>
<th>Stage</th>
<th>Construction</th>
</tr>
</thead>
</table>
| 1. Instrument components | • Literature review: broad databases  
• In-depth interviews: 10 nurses with experience caring for LGBT people  
• Final analysis: identify factors through literature review and in-depth interviews |
| 2. Preliminary item development | • Construction of 25 preliminary items |
| 3. Choice of scale | • 6-point Likert scale |
| 4. Expert content validity assessment | • Expert opinions: expert group (n=8)  
• Calculating CVI |
| 5. Item review and preliminary survey | • Linguistic expert review of item (n=1)  
• Preliminary survey: 23 nurses  
• Final confirmation of 24 items |
| 6. Instrument application | • Main Survey: 322 clinical nurses |
| 7. Instrument evaluation and validation | • Item characteristic analysis and item-total score correlation  
• Construct validity, convergent validity  
• Reliability: internal consistency |
| 8. Instrument finalization | • Final confirmation of the measurement tool for the LGBT Cultural Competence Scale for Nurses: 5 factors, 21 items |

Figure 1. Development process of the LGBT Cultural Competence Scale for Nurses.
CVI, Content validity index; LGBT: lesbian, gay, bisexual, and transgender.
review utilized several databases, including KISS (Korean Studies Information Service System), RISS (Research Information Sharing Service), KCI (Korea Citation Index), ClinicalKey for Nursing, PubMed, EMBASE, and ProQuest, to search for relevant published articles and completed theses. The primary search terms included “LGBT,” “homosexuality,” “lesbian,” “gay,” “transgender,” “cultural competence,” “nurse,” “nursing,” and “Bisexual.” Following the initial findings from the literature review, specific criteria were established for conducting individual in-depth interviews. These criteria required nurses to have a minimum of 1 year of clinical experience at a university hospital and to have cared for at least one patient who disclosed their sexuality for treatment purposes, taking into account the special considerations for LGBT patients. Participants for the in-depth interviews were recruited through a social network system (SNS), with the purpose of the research clearly communicated. The interviews were conducted face-to-face, lasting between 1 and 1.5 hours each. The interview process continued until data saturation was achieved, indicated by the repetition of content and the absence of new information. In total, 10 nurses participated in these interviews.

Step 2: preliminary item development
Preliminary questions were formulated based on the components of LGBT cultural competency for nurses, identified through a literature review and individual in-depth interviews.

Step 3: choice of scale
In this study, we employed a 6-point Likert scale to eliminate neutral responses. This approach facilitated a clearer understanding of the respondents’ attitudes and reduced the potential for distortion when interpreting the results.

Step 4: expert content validity assessment
To ensure that the preliminary instrument, which comprised a set of initial questions, was effectively organizing the content intended to be measured, we carried out a content validation with a panel of experts. Based on Lynn’s recommendations [20] for participant numbers in content validation studies, we engaged eight experts: three nursing professors with expertise in psychiatric nursing and multiculturalism, one medical school professor with teaching experience regarding LGBT issues, one social work professor experienced in tool development, and three practitioners holding master’s degrees and possessing at least 8 years of clinical experience in caring for LGBT patients. We determined the item-level content validity index (I-CVI) by calculating the proportion of experts providing certain responses regarding the relevance of each item. Items with an I-CVI of .80 or higher were selected [21]. Additionally, we considered preliminary items appropriate if the scale-level content validity index (S-CVI), obtained by dividing the sum of the I-CVI scores by the total number of items, was .90 or higher. Subsequently, we refined and expanded the questions to incorporate the insights gained from the expert consultations.

Step 5: item review and preliminary survey
We conducted a preliminary survey involving 23 nurses with experience in caring for LGBT individuals. During this survey, participants provided feedback on the initial questions and general characteristics. The survey was then refined to improve the clarity of each question, the response time, the layout of the questionnaire, and the length of the questions, as well as to add content when necessary. Following the results of the preliminary survey, an expert with a master’s degree in Korean studies and over 10 years of experience as a Korean language instructor at a university assessed the overall grammar and vocabulary of the survey items.

Step 6: instrument application
Study participants: The participants in this study were nurses who had a minimum of 1 year of clinical experience. Information about the study’s purpose and procedures, as well as a link to the survey, was disseminated through an SNS used by nurses and nursing students. Drawing on previous research that addressed the appropriate sample size for factor analysis [22], we aimed for 300 participants, estimating a 10% dropout rate. Consequently, 333 individuals were selected through convenience sampling. After discarding 11 responses considered inadequate, the final dataset comprised 322 responses.

Data collection: An online survey was conducted from February 23 to March 1, 2022. The purpose and procedures of the study, along with a link to the survey, were posted on online community bulletin boards and SNSs, including Instagram, Facebook, and KakaoTalk. These platforms are frequented by nurses and nursing students employed at hospitals in Korea. To encourage participation in the survey, respondents were offered a mobile voucher valued at approximately 7 US dollars.

Step 7: instrument evaluation
Descriptive statistics were calculated for item analysis. To assess construct validity, exploratory factor analysis was conducted. Convergent validity was evaluated using the shortened version of the Nurses’ Cultural Competence Instrument, developed by
Chae and Park [23]. The Cronbach alpha was calculated to determine the internal consistency of the items within the tool, ensuring a consistent measurement of the intended content.

Step 8: instrument finalization
The instrument was optimized by eliminating items that compromised its validity and reliability. Following this removal, the scale was ready for use.

Data analysis
The collected data were analyzed using SPSS ver, 24.0 (IBM Corp., Armonk, NY, USA). The methods of analysis included the following.

1) Descriptive statistics were used to analyze the general characteristics of the study participants.
2) The I-CVI and S-CVI/average proportion were employed to confirm the content validity of the preliminary tool.
3) To assess the suitability of the collected data for exploratory factor analysis, we utilized the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett test of sphericity. A KMO value exceeding .80 was considered appropriate for factor analysis. Furthermore, a rejection of the null hypothesis in the Bartlett test of sphericity suggests that the data are appropriate for factor analysis. We also employed the Varimax method for factor rotation. Items with eigenvalues over 1.0 and factor loadings greater than .50 were selected to determine the number of factors.
4) The Pearson correlation coefficient was used to assess convergent validity. A coefficient of .10 to .30 was interpreted as indicating a low correlation, .30 to .50 a moderate correlation, and .50 or higher a high correlation [24].
5) The internal consistency reliability of the developed tool was assessed using the Cronbach alpha. 6) Content analysis was employed to examine the qualitative data that had been collected.

Results

Step 1: instrument components
The literature review and individual in-depth interviews yielded four dimensions and 12 attributes, from which the components of nurses’ LGBT cultural competence were identified.

Step 2: preliminary items
Based on the dimensions, attributes, and indicators identified in the prior step, a total of 25 preliminary items were derived, distributed across the four dimensions: 10 items pertained to awareness and knowledge, two to experience, eight to skills, and five to motivation.

Step 3: choice of scale
We opted to use a Likert scale, which is a commonly used method in the social sciences to measure opinions, beliefs, and attitudes. To avoid neutral responses, a 6-point Likert scale with a range of 1 (“not at all”) to 6 (“very much”) was chosen.

Step 4: expert content validity
The I-CVI values ranged from .88 to 1.00. The S-CVI was determined by dividing the sum of the I-CVIs by the total number of items, yielding a value of .95. This met the criterion for acceptability, established at .90 or higher.

Step 5: item review and preliminary survey
To evaluate the items prior to the main survey, a preliminary survey was administered to 23 nurses with experience caring for sexual minorities. The completion time for the survey varied from 4 to 25 minutes, with an average of 8.93 minutes. The overall comprehension of the survey items was rated at 3.83 ± 0.94. The layout of the items in the questionnaire was rated 4.13 ± 0.76, and the appropriateness of the length of the items received a score of 3.87 ± 0.76 (Table 1). After a review by an expert in Korean studies, minor revisions were made to the grammar and the use of vocabulary particles in the items, resulting in a finalized set of 24 items.

Step 6: main survey findings
General characteristics of the participants
Of the 322 participants in this study, 22 were male (6.8%) and 300 (93.2%) were female. The most common age group was 30 to 39 years old, representing 203 participants (63.1%). The majority were married, accounting for 172 individuals (53.4%). The highest level of education for most was a bachelor’s degree, held by 254 participants (78.9%). Regarding religion, 195 participants (60.6%) reported having none. In terms of work experience, the

<table>
<thead>
<tr>
<th>Category</th>
<th>Range</th>
<th>Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time required to complete the survey (minute)</td>
<td>4–25</td>
<td>8.93 ± 5.10</td>
</tr>
<tr>
<td>Level of clarity of the questions</td>
<td>1–5</td>
<td>3.83 ± 0.94</td>
</tr>
<tr>
<td>Appropriateness of layout</td>
<td>1–5</td>
<td>4.13 ± 0.76</td>
</tr>
<tr>
<td>Appropriateness of question length</td>
<td>1–5</td>
<td>3.87 ± 0.76</td>
</tr>
</tbody>
</table>
largest group consisted of those with more than 5 but less than 10 years, totaling 124 (38.5%). The position most frequently held was that of a staff nurse, by 272 participants (84.4%), and the most common work department was the general ward, with 237 individuals (73.6%) (Table 2).

Step 7: instrument evaluation results
Correlation analysis between item characteristics and item-total scores

The findings regarding the validity of the items, as measured by the mean, standard deviation, skewness, and kurtosis of each item, are as follows. The mean values of the items varied from 3.08 to 4.52, while the standard deviation ranged from 1.15 to 1.67, which is not considered extreme. Additionally, the skewness and kurtosis for all items fell within the ± 2.00 range, suggesting that each item conformed to the assumption of normality. To assess the contribution of the 24 selected items, we examined the item-total score correlation coefficient and the Cronbach alpha value when items were deleted. Items that correlated less than .30 with the total score were deemed to have a low contribution to the scale domain [25]. The correlation coefficients between the items and the total score ranged from .37 to .67, with no items falling below .30, and the Cronbach alpha value for all items was .92. Consequently, an exploratory factor analysis was conducted using the 24 items.

Construct validity: exploratory factor analysis

For the 24 items selected through item characterization, exploratory factor analysis was performed four times to determine the loading structure and the factors associated with each item. The KMO measure of sampling adequacy was .90, which exceeds the recommended threshold of .80 [26]. Additionally, the Bartlett test of sphericity indicated statistical significance ($\chi^2 = 2,986.48$ [degrees of freedom, 210], $p < .001$), confirming the appropriateness of the data for factor analysis. Five factors were extracted with eigenvalues of 1.0 or higher, which accounted for 63.63% of the variance. The factor loadings ranged from .57 to .80, and the communalities for each item varied from .51 to .76, all exceeding the predetermined cutoff value (Table 3).

Following exploratory factor analysis, a total of 21 items were identified across five factors. These factors were as follows: “cultural skills,” including seven items; “cultural awareness,” comprising five items; “cultural experience,” with three items; “cultural pursuit,” also with three items; and “cultural knowledge,” with three items.

Convergent validity test findings

The Pearson correlation coefficient between the 21 items of the developed scale and the 14 items of the Nurses’ Cultural Competency Measurement Tool was .70 ($p < .001$), indicating a high positive correlation. Furthermore, the Pearson correlation coefficients between the Nurses’ Cultural Competency Measurement Tool and the subfactors of the developed scale demonstrated significance and moderate strength: .39 ($p < .001$) for cultural skills, .60 ($p < .001$) for cultural awareness, .45 ($p < .001$) for cultural experience, .64 ($p < .001$) for cultural pursuit, and .62 ($p < .001$) for cultural knowledge. Thus, the convergent validity was deemed acceptable (Table 4).

Reliability testing: assessment of internal consistency

Considering that a reliability coefficient of .60 or higher is

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### Table 2. General characteristics of participants in the main survey (N=322)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Categories</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Female</td>
<td>300 (93.2)</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>22 (6.8)</td>
</tr>
<tr>
<td>Age (year)</td>
<td>20–29</td>
<td>78 (24.2)</td>
</tr>
<tr>
<td></td>
<td>30–39</td>
<td>203 (63.1)</td>
</tr>
<tr>
<td></td>
<td>40–49</td>
<td>38 (11.8)</td>
</tr>
<tr>
<td></td>
<td>≥ 50</td>
<td>3 (0.9)</td>
</tr>
<tr>
<td>Marriage status</td>
<td>Single</td>
<td>147 (45.7)</td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>172 (53.4)</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>3 (0.9)</td>
</tr>
<tr>
<td>Level of education</td>
<td>≤ Junior college</td>
<td>42 (13.0)</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>254 (78.9)</td>
</tr>
<tr>
<td></td>
<td>≥ Graduate school</td>
<td>26 (8.1)</td>
</tr>
<tr>
<td>Religion</td>
<td>Protestant</td>
<td>69 (21.4)</td>
</tr>
<tr>
<td></td>
<td>Roman Catholic</td>
<td>29 (9.0)</td>
</tr>
<tr>
<td></td>
<td>Buddhist</td>
<td>29 (9.0)</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>195 (60.6)</td>
</tr>
<tr>
<td>Position</td>
<td>Staff nurse</td>
<td>272 (84.4)</td>
</tr>
<tr>
<td></td>
<td>Charge nurse</td>
<td>35 (10.9)</td>
</tr>
<tr>
<td></td>
<td>Head nurse</td>
<td>9 (2.8)</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>6 (1.9)</td>
</tr>
<tr>
<td>Work experience (year)</td>
<td>≤ 1–4</td>
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<td></td>
<td>5–9</td>
<td>124 (38.5)</td>
</tr>
<tr>
<td></td>
<td>10–19</td>
<td>91 (28.2)</td>
</tr>
<tr>
<td></td>
<td>≥ 20</td>
<td>6 (1.9)</td>
</tr>
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<td>Department</td>
<td>General ward</td>
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<td></td>
<td>Outpatient</td>
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<tr>
<td></td>
<td>Emergency room</td>
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</tr>
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<td></td>
<td>Intensive care unit</td>
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</tr>
<tr>
<td></td>
<td>Others</td>
<td>20 (6.2)</td>
</tr>
</tbody>
</table>
deemed reliable [24], the overall Cronbach alpha for the 21 items of the final instrument was excellent, at .97. The specific Cronbach alpha values were .87 for cultural skills, .81 for cultural awareness, .75 for cultural experience, .73 for cultural pursuits, and .68 for cultural knowledge.

**Step 8: instrument finalization**

The instrument was finalized with 21 items, categorized into five factors: cultural skills (seven items), cultural awareness (five items), cultural experiences (three items), cultural pursuits (three items), and cultural knowledge (three items). The final instrument uses a scale ranging from 1, indicating “not at all,” to 6, signifying “very much.” The summed total score ranges from 21 to 126, with higher scores denoting greater LGBT cultural competence (Supplementary Material 1).

### Table 3. Results of exploratory factor analysis (N=322)

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Communality</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
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<td>.34</td>
<td>.65</td>
<td>.23</td>
<td>.17</td>
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</tr>
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<td>.61</td>
<td>.03</td>
<td>.77</td>
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<td>−.01</td>
<td>.06</td>
</tr>
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<td>3</td>
<td>.64</td>
<td>.19</td>
<td>.76</td>
<td>.04</td>
<td>.13</td>
<td>.10</td>
</tr>
<tr>
<td>4</td>
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<td>.01</td>
<td>.70</td>
<td>−.01</td>
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<td>.06</td>
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<tr>
<td>5</td>
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<td>.35</td>
<td>.64</td>
<td>.17</td>
<td>.02</td>
<td>.13</td>
</tr>
<tr>
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<td>.60</td>
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<td>.20</td>
<td>.09</td>
<td>.17</td>
<td>.66</td>
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<td>.41</td>
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<td>−.05</td>
<td>.09</td>
<td>.28</td>
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Eigenvalues

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</thead>
<tbody>
<tr>
<td>1</td>
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<td>1.19</td>
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<td>3</td>
<td>45.2</td>
<td>52.9</td>
<td>58.6</td>
<td>63.6</td>
<td>63.6</td>
</tr>
</tbody>
</table>

**Kaiser-Meyer-Olkin = .90**

Bartlett test of sphericity: $\chi^2 = 2,986.48$ (degrees of freedom, 210), $p < .001$

### Discussion

Based on the conceptual framework of the Campinha-Bacote model of the process of cultural competence in the delivery of healthcare services [17], this study developed items for an LGBT cultural competence scale for nurses. It also tested the validity and reliability of these items to establish the final scale. The resulting scale comprises 21 items across five factors: cultural skills, cultural awareness, cultural experience, cultural pursuit, and cultural knowledge. These factors reflect the shared meanings of the subfactors.

Among the five identified factors, cultural skills exhibited the highest explanatory power (36.59%). This factor comprises items evaluating the overall nursing performance of skills and practices necessary for caring for LGBT individuals, as well as
the ability to provide care in a comfortable and safe environment. Cultural awareness displayed the second-highest explanatory power, at 8.59%. Along similar lines, a previous instrument developed by Crisp [16] included items measuring attitudes, prejudices, and beliefs about LGBT people. Nurses have reported that their personal beliefs about LGBT individuals sometimes lead to feelings of unfamiliarity and discomfort in providing care [27]. Furthermore, nurses must recognize the diversity of the population in their efforts to understand their own values, beliefs, attitudes, and biases and to acknowledge the diverse cultures of others [28]. As such, nurses’ cultural awareness of LGBT people is important, and this factor includes preconceived notions about the population, the cultivation of unbiased positive perceptions, and the evaluation of personal beliefs. The next factor, cultural experience, had an explanatory power of 7.76%. It is composed of questions regarding perceptions of, experiences with, and treatment of LGBT individuals. This factor underscores nurses’ roles and responsibilities in delivering quality nursing care through understanding, respect, and a professional approach to LGBT patients. In turn, cultural pursuits demonstrated an explanatory power of 5.65%. It includes questions about the willingness and motivation to actively seek education and training to better understand LGBT people. Finally, cultural knowledge demonstrated an explanatory power of 5.02%. This factor involves understanding the concept and definition of LGBT, as well as the social context of this population’s healthcare needs, illnesses, and challenges in accessing healthcare. This differs from the concept of cultural knowledge as a curriculum in which healthcare providers learn about the basic culture and values of different cultural groups [17, 29]. A lack of knowledge about LGBT individuals among nurses can lead to increased uncertainty in nursing care, which may impact the quality of care [27]. However, this study has limitations due to its focus on clinical nurses, which necessitates caution when generalizing the results. Additionally, despite the anonymity of the survey, some nurses may have selected responses to conform to social expectations.

The LGBT cultural competence scale for nurses, developed in this study, may be utilized in nursing education to evaluate the cultural competence levels of nurses regarding LGBT care. It can also measure changes after educational interventions. Furthermore, this scale can contribute to establishing a systematic nursing education system, as the measurement results may be useful in planning and implementing educational programs for nurses. Additionally, the instrument can be employed to assess the LGBT cultural competency of both new and experienced nurses on an ongoing basis. This continuous assessment approach, rather than a one-time evaluation, can improve the effectiveness of training programs. In the context of nursing practice, this tool is relevant for nurses who provide care to LGBT individuals in clinical settings. By accurately measuring nurses’ LGBT cultural competence in these environments, the tool is expected to improve the quality of nursing care, ensuring safe and comfortable care for LGBT patients. Finally, this study identified the attributes of nurses’ LGBT cultural competence through a literature review and qualitative data analysis, which were integral to the development of the instrument. The findings from this process can be used to support future research on LGBT issues in nursing.

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**Authors’ contributions**

Conceptualization: All authors; Data collection, Formal analysis: Kim MK; Writing–original draft: Kim MK; Writing–Review & editing: Kim HY.

**Conflict of interest**

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References
Prevalence of pre-obesity and above and its associated factors in adult women: an analysis of the 2020 Korea National Health and Nutrition Examination Survey

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Purpose: This study was conducted to determine the prevalence of pre-obesity (overweight) and above in adult women and to identify associated factors.

Methods: Data were obtained from the eighth Korea National Health and Nutrition Examination Survey (KNHANES VIII-2), conducted in 2020. The sample comprised 2,288 women aged 19–64 years who participated in the KNHANES VIII-2. Data were analyzed using complex sample design analysis with SPSS version 20.1.

Results: The prevalence of pre-obesity and above among adult women was 46.5%, with 18.6% classified as having pre-obesity and 27.9% as having obesity. A higher prevalence of pre-obesity and above was observed in women aged 50–59 years (odds ratio [OR]=1.67, p=.019) or 60–64 years (OR=1.80, p=.029); women whose highest educational attainment was high school (OR=1.28, p=.018) or middle school or less (OR=1.60, p=.017); those in middle-income households (OR=1.55, p=.005); those engaging in muscle-strengthening activities less than 2 days per week (OR=1.37, p=.019); and those sleeping less than 6 hours per night during the week (OR=1.37, p=.025).

Conclusion: As nearly half of all adult women have either pre-obesity or obesity, prevention and management strategies must target both groups. Interventions should be prioritized for women in their 50s and older, as well as those with low education or income levels. Additionally, receiving adequate sleep of 7 hours or more and engaging in muscle-strengthening activities at least 2 days per week are important components of obesity management.

Keywords: Adult; Obesity; Overweight; Women

Introduction

Pre-obesity is characterized by the accumulation of excess fat, while obesity is the accumulation of excess fat to the point of compromising health [1]. Both pre-obesity and obesity represent growing public health problems worldwide [1,2]. These conditions are major risk factors for various non-communicable diseases, including diabetes, cardiovascular disease, musculoskel-etal disease, sleep apnea, depression, and cancer [3,4]. They are also associated with chronic health conditions and disabilities [5] and ultimately contribute to mortality [6]. Furthermore, pre-obesity and obesity cause substantial economic losses due to direct costs, such as medical expenses, and indirect costs, including those associated with premature death [7]. They also substantially impact labor productivity through high rates of absenteeism and low job satisfaction [2].
Pre-obesity and obesity rates are increasing worldwide [2], along with associated diseases [8]. The World Health Organization (WHO) reported that in 2016, 39% of adults globally had pre-obesity, while 13% had obesity [1]. Based on data from 16 member countries between 2017 and 2021, the Organization for Economic Co-operation and Development found that 34.3% and 25.7% of adults exhibited pre-obesity and obesity, respectively [3]. In Korea, data from the 2019 Korea National Health and Nutrition Examination Survey (KNHANES) indicated that 22.5% of adults had pre-obesity and 34.4% had obesity, corresponding to over half of the adult population exhibiting pre-obesity or above [9].

Reducing weight in adults with pre-obesity is a key step in preventing obesity, as the former often precedes the latter, and it becomes more challenging to normalize weight as pre-obesity progresses [10]. Although previous research has associated pre-obesity with a lower mortality risk compared to normal body mass index (BMI), recent meta-analyses and prospective observational studies have reported that mortality risk increases when BMI exceeds the normal range [11]. Furthermore, pre-obesity confers an elevated risk of hypertension and cardiovascular disease [12,13], and this risk is heightened when pre-obesity begins at an earlier age [12]. The Korean Society for the Study of Obesity (KSSO) recommends maintaining a BMI of less than 23 kg/m². This recommendation is based on a national survey involving over 20 million participants in National Health Insurance Service health checkups, which revealed that individuals with a BMI of 23 kg/m² or higher were more likely to have at least one of three adult diseases: diabetes, hypertension, or dyslipidemia [14].

There is insufficient awareness about the risks and severity of pre-obesity. While obesity is often addressed therapeutically, its associated health issues indicate the need for effective management of pre-obesity as a preventive measure, rather than solely focusing on the treatment of obesity [13]. In 2018, the KSSO updated its relevant guidance, categorizing obesity into stages 1, 2, and 3. Additionally, the guidelines replaced the term “overweight” with “pre-obesity” to underscore the associated risk of obesity [14].

Pre-obesity and obesity pose serious health risks and require regular monitoring [15]. To curb the growing obesity epidemic, it is necessary to focus on contributing situational or behavioral factors [2] and to identify variables linked to pre-obesity and obesity [16], as well as those associated with prevalence trends [15]. While many international studies have examined the prevalence and associated factors of both pre-obesity and obesity [2,15], most research conducted in Korea has focused exclusively on obesity [17]. Furthermore, when exploring factors related to obesity in domestic research, the focus is often on adolescents or the entire adult population [17]. However, the pathophysiology of obesity and the accumulation of visceral fat differs between women and men [8], and female-specific factors such as child-bearing, pregnancy, and menopause impact obesity [8,18]. Therefore, it is imperative to identify factors relevant to obesity separately for women and men.

While the combined prevalence of pre-obesity and obesity is reportedly lower in women than in men [3], women face a higher risk of developing related diseases [7]. Additionally, obesity-associated healthcare costs appear to be higher for women...
than for men [19]. Women with obesity are also at increased risk of certain women’s health conditions, including irregular menstrual cycles, cancers such as endometrial and breast cancer, and pelvic disorders [18]. Moreover, in a society that values appearance and thinness, the negative perceptions fueled by prejudice and stereotypes contribute to depression among women with obesity [18,19]. Obesity-related stigma has also been described as having a more detrimental impact on women with the condition compared to their male counterparts [20]. Therefore, this study examined the prevalence and associated factors of pre-obesity abnormalities in adult women, including both individuals with obesity and those with pre-obesity. This research may provide a foundation for developing interventions for the prevention and management of obesity in adult women.

The purpose of this study is to determine the prevalence of pre-obesity and above in adult women, as well as to identify associated factors. The specific research objectives are as follows:

1) to ascertain the prevalence of pre-obesity and above among adult women;
2) to identify differences in this prevalence based on general characteristics;
3) to identify differences in this prevalence based on health-related characteristics; and
4) to identify factors associated with this prevalence among the study population.

Methods

**Ethics statement:** The requirement for obtaining informed consent was waived by the Institutional Review Board of Joongbu University (JIRB-2023052201-01), as the study did not involve any sensitive information and the survey was conducted anonymously.

**Study design**

This study presents a secondary analysis of data from the eighth KNHANES, conducted in 2020, to examine the prevalence of pre-obesity and above among adult women. Employing a descriptive correlational design, the analysis utilized the 2020 KNHANES dataset to ascertain this prevalence and to identify related factors in this population.

**Sample and sampling**

This study included adult women aged 19-64 years who participated in the KNHANES, conducted by the Korea Disease Control and Prevention Agency (KDCA), between January and December 2020. The categorization of pre-obesity and obesity within this study relied on BMI measurements; therefore, only adult women with available height and weight data were included. Of the 7,359 individuals who participated in the 2020 KNHANES, 3,945 were women. Among these, 2,398 were adult women within the specified age range, and 2,288 of them had complete height and weight data (Figure 1).

**Variables**

**Pre-obesity and above**

In this study, BMI values were calculated using weight and height data from the KNHANES to define pre-obesity. According to the KSSO, BMI classifications are as follows: underweight, < 18.5 kg/m²; normal, 18.5–22.9 kg/m²; pre-obesity, 23–24.9 kg/m²; obesity stage 1, 25–29.9 kg/m²; obesity stage 2, 30–34.9 kg/m²; and obesity stage 3, ≥ 35 kg/m² [21]. For the purposes of this study, “pre-obesity and above” encompasses both pre-obesity and obesity, defined as a BMI of 23 kg/m² or higher.

**Figure 1.** Flowchart of the study population.

KNHANES VIII–2, the eighth Korea National Health and Nutritional Examination Survey; BMI, body mass index.
General characteristics
For general characteristics, data were acquired from the KNHANES on age, education reclassification, household income quintile, marital status, household type, head of household status, and occupation reclassification (employment status). Age was divided into five categories: 19–29, 30–39, 40–49, 50–59, and 60–64 years. Education was classified according to the highest level of attainment: less than high school graduation, high school graduation, or college graduation or higher. This system was based on reclassification of categories that included “less than middle school diploma,” “middle school diploma,” “high school diploma,” and “college diploma or higher.” Income levels were determined using household income quintiles—low, middle-low, middle, middle-high, and high—based on the average monthly household equivalized income. Marital status was categorized as unmarried or married. Household type was differentiated into one-person and multi-person households; the category “one family member in one household” was considered a one-person household, while all others were classified as multi-person households. Household head status was identified as a yes-or-no item using the relevant data. Finally, employment status was categorized based on occupational reclassification data, with individuals classified as either having a job (yes) or not having one (no).

Health-related characteristics
The health-related characteristics examined in this study included perceived stress, current smoking status, frequency of alcohol consumption and number of drinks consumed annually, aerobic physical activity, days of strength training per week, and average hours of sleep per night on weekdays and weekends. Perceived stress was classified into two categories. Stress perceived (yes) was associated with the responses “I feel very stressed” and “I tend to feel very stressed,” while stress unperceived (no) was indicated by either “I feel a little stressed” or “I rarely feel stressed.” Smoking status was categorized as smoking (yes) for individuals who reported smoking “daily” or “sometimes” and non-smoking (no) for those who had “smoked in the past but not currently” or had “never smoked.” Alcohol consumption was categorized as non-drinking for those who reported not drinking in the past year; high-risk drinking for individuals consuming an average of 5 or more drinks per occasion and drinking twice a week, as per the KNHANES criteria for high-risk drinking [22]; and non-high-risk drinking for the remaining respondents. Physical activity was assessed based on the prevalence of aerobic physical activity from the KNHANES, categorizing individuals as engaging in aerobic physical activity (yes) or not (no). This was determined by whether they participated in moderate-intensity physical activity for at least 2 hours and 30 minutes per week, vigorous-intensity physical activity for at least 1 hour and 15 minutes per week, or an equivalent combination of these. Muscle-strengthening activity was categorized based on WHO recommendations [23] as less than 2 days per week (no) or 2 or more days per week (yes), using data on the frequency of strength training. Finally, based on previous research, sleep duration was categorized as 6 hours or less, 7–8 hours, or 9 hours or more [24]. This categorization used open-ended average sleep duration per day, calculated for weekdays and weekends.

Data collection and analysis
The data for this study were obtained from the KNHANES section of the KDCA website in 2020, following the completion of the Statistical Data User Compliance Pledge and the registration of user information. In accordance with the Personal Information Protection Act and the Statistics Act, the KDCA provides only de-identified data to prevent the identification of individuals from the survey data. The downloaded data were analyzed using IBM SPSS ver. 21.0 (IBM Corp., Armonk, NY, USA), considering the strata, clusters, and weights inherent in the design for a composite sample analysis. The specific analytical methods used were as follows.

1) The prevalence of pre-obesity and above among adult women was assessed using composite sample frequency analysis.
2) Differences in this prevalence within the study population, based on general and health-related characteristics, were examined using the Rao-Scott chi-square test.
3) Factors associated with the prevalence of pre-obesity and above were analyzed using multiple logistic regression.

Results

Prevalence of pre-obesity and above in adult women
Of the adult women, 18.6% had pre-obesity and 27.9% had obesity; thus, the combined prevalence of pre-obesity and above was 46.5% (Table 1).

Variations in the prevalence of pre-obesity and above based on general and health-related characteristics in adult women
The prevalence of pre-obesity and above among adult women varied according to age, education, marital status, income, and head of household status. Increasing age was associated with a higher prevalence of pre-obesity and above ($\chi^2 = 82.04, p < .001$),
Factors associated with the prevalence of pre-obesity and above in adult women

The prevalence of pre-obesity and above among adult women was associated with age, education level, income, muscle-strengthening activity, and weekday sleep duration. Specifically, the prevalence was 1.67 times higher \((p = .019)\) in women aged 50–59 years and 1.80 times higher \((p = .029)\) in women aged 60–64 years, compared to those 19–29 years old. Women with only a high school diploma were 1.28 times more likely \((p = .018)\) to have pre-obesity or obesity than those with a college degree or higher, and this likelihood rose to 1.60 \((p = .017)\) for women with less than a high school education. Additionally, women with middle incomes displayed a 1.55 times greater prevalence \((p = .005)\) of pre-obesity or obesity compared to those with high incomes. Engaging in muscle-strengthening activities less than 2 days per week was associated with a 1.37-fold higher prevalence \((p = .019)\) than more frequent activity, and women who slept 6 hours or less per day similarly had a 1.37-fold higher prevalence \((p = .025)\) compared to those sleeping 7 to 8 hours per day (Table 3).

**Discussion**

This study conducted a secondary analysis of data from the 2020 KNHANES to determine the prevalence of pre-obesity and obesity in adult women, as well as to identify factors associated with these conditions.

Overall, 18.6% of the participants had pre-obesity and 27.9% had obesity; thus, the combined prevalence was 46.5%. This figure is lower than the 56.2% prevalence of pre-obesity and above reported among Iranian women [25], yet higher than the 43.2% reported among Botswana women [26]. Analysis of data from the 2019 KNHANES indicated that the prevalence of pre-obesity and obesity among adult women aged 19 years and older was 46.4%, with 19.1% exhibiting pre-obesity and 27.3% obesity. Among young adult women (19–39 years), the rate was 30.0% (pre-obesity, 11.0%; obesity, 19.0%), and among middle-aged women (40–64 years), the rate was 50.8% (pre-obesity, 21.7%; obesity, 29.1%) [9]. Considering the 2019 KNHANES data [9] and the findings of this study, nearly half of Korean adult women aged 19–64 have at least pre-obesity, with about half of this group in the obese category. These findings underscore the urgency of obesity prevention and management, targeting women with pre-obesity as a group at high risk. Consequently, there is a need to broaden the scope of obesity prevention and management to include this group. Additionally, more practical and effective prevention and management programs should be developed, informed by ongoing research into factors contributing to the prevalence of pre-obesity and obesity in adult women.

In this study, the prevalence of pre-obesity and above was higher in adult women aged 50–59 and 60–64 years compared to those aged 19–29 years. This aligns with previous research [16,25] indicating an increased prevalence of pre-obesity and above as women age. However, some studies have found no association between age and obesity in women [17]. This discrepancy may stem from the fact that these studies only included women aged 19–39 years and compared the mean ages of women with and without obesity, rather than examining differences in obesity prevalence across age groups. Therefore, based on previous research [16,25] and our findings, the prevalence of pre-obesity and above tends to rise with age. The growing prevalence of pre-obesity and above among aging women may be attributed to...
Table 2. Prevalence of pre-obesity and above among women based on general and health-related characteristics (N=2,288)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Categories</th>
<th>n</th>
<th>%† (SE)</th>
<th>%‡ (SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>BMI &lt; 23.0 kg/m²</td>
<td>BMI ≥ 23.0 kg/m²</td>
</tr>
<tr>
<td>Age (years)</td>
<td>19–29</td>
<td>397</td>
<td>20.9 (1.1)</td>
<td>65.1 (3.0)</td>
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<tr>
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<td>30–39</td>
<td>417</td>
<td>19.3 (1.2)</td>
<td>61.8 (2.7)</td>
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<td>40–49</td>
<td>545</td>
<td>23.5 (1.2)</td>
<td>53.0 (2.4)</td>
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<td>50–59</td>
<td>579</td>
<td>25.0 (1.0)</td>
<td>45.0 (2.5)</td>
</tr>
<tr>
<td></td>
<td>60–64</td>
<td>350</td>
<td>11.2 (0.7)</td>
<td>37.2 (3.2)</td>
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<td>Education</td>
<td>Less than high school</td>
<td>316</td>
<td>11.1 (0.9)</td>
<td>35.3 (3.2)</td>
</tr>
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<td></td>
<td>High school</td>
<td>861</td>
<td>41.1 (1.5)</td>
<td>50.7 (1.9)</td>
</tr>
<tr>
<td></td>
<td>College or higher</td>
<td>1,009</td>
<td>47.8 (1.7)</td>
<td>59.9 (1.8)</td>
</tr>
<tr>
<td>Income</td>
<td>Low</td>
<td>150</td>
<td>6.1 (0.7)</td>
<td>44.5 (5.8)</td>
</tr>
<tr>
<td></td>
<td>Middle-low</td>
<td>317</td>
<td>13.2 (1.0)</td>
<td>48.4 (3.3)</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>533</td>
<td>23.2 (1.1)</td>
<td>48.8 (2.7)</td>
</tr>
<tr>
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<td>Middle-high</td>
<td>636</td>
<td>28.2 (1.2)</td>
<td>55.1 (2.4)</td>
</tr>
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<td></td>
<td>High</td>
<td>648</td>
<td>29.3 (1.8)</td>
<td>59.9 (2.3)</td>
</tr>
<tr>
<td>Marital status</td>
<td>Unmarried</td>
<td>529</td>
<td>26.7 (1.2)</td>
<td>65.4 (2.6)</td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>1,759</td>
<td>73.3 (1.2)</td>
<td>49.1 (1.6)</td>
</tr>
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<td>Household type</td>
<td>One-person</td>
<td>169</td>
<td>6.2 (0.8)</td>
<td>54.2 (4.9)</td>
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<tr>
<td></td>
<td>Multi-person</td>
<td>2,119</td>
<td>93.8 (0.8)</td>
<td>48.4 (2.1)</td>
</tr>
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<td>Head of household</td>
<td>No</td>
<td>1,511</td>
<td>68.4 (1.2)</td>
<td>55.8 (1.8)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>777</td>
<td>31.6 (1.2)</td>
<td>48.8 (2.7)</td>
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<td>Employed</td>
<td>No</td>
<td>891</td>
<td>40.0 (1.4)</td>
<td>52.8 (2.4)</td>
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<tr>
<td></td>
<td>Yes</td>
<td>1,397</td>
<td>60.0 (1.4)</td>
<td>53.9 (1.6)</td>
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<td>Perceived stress</td>
<td>No</td>
<td>1,530</td>
<td>67.0 (1.2)</td>
<td>54.2 (1.6)</td>
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<tr>
<td></td>
<td>Yes</td>
<td>749</td>
<td>33.0 (1.2)</td>
<td>52.3 (2.5)</td>
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<tr>
<td>Smoking status</td>
<td>No</td>
<td>2,143</td>
<td>93.8 (0.6)</td>
<td>53.7 (1.5)</td>
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<td></td>
<td>Yes</td>
<td>136</td>
<td>6.2 (0.6)</td>
<td>51.3 (3.5)</td>
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<td>Drinking status</td>
<td>Non–drinking</td>
<td>645</td>
<td>26.1 (1.1)</td>
<td>51.3 (2.4)</td>
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<td>Non–high-risk drinking</td>
<td>1,488</td>
<td>67.5 (1.1)</td>
<td>54.6 (1.8)</td>
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<td></td>
<td>High-risk drinking</td>
<td>146</td>
<td>6.4 (0.6)</td>
<td>51.3 (5.0)</td>
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<td>Physical activity</td>
<td>No</td>
<td>1,245</td>
<td>55.9 (1.3)</td>
<td>53.3 (1.8)</td>
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<tr>
<td></td>
<td>Yes</td>
<td>941</td>
<td>44.1 (1.3)</td>
<td>53.3 (2.0)</td>
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<tr>
<td>Muscle-strengthening activity (days/week)</td>
<td>&lt; 2</td>
<td>1,822</td>
<td>82.9 (0.9)</td>
<td>51.7 (1.5)</td>
</tr>
<tr>
<td></td>
<td>≥ 2</td>
<td>364</td>
<td>17.1 (0.9)</td>
<td>61.5 (2.9)</td>
</tr>
<tr>
<td>Weekday sleep duration (hours/day)</td>
<td>≤ 6</td>
<td>941</td>
<td>40.8 (1.0)</td>
<td>49.1 (2.0)</td>
</tr>
<tr>
<td></td>
<td>7–8</td>
<td>1,096</td>
<td>47.2 (1.1)</td>
<td>56.6 (1.9)</td>
</tr>
<tr>
<td></td>
<td>≥ 9</td>
<td>251</td>
<td>12.0 (0.8)</td>
<td>56.0 (3.7)</td>
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<tr>
<td>Weekend sleep duration (hours/day)</td>
<td>≤ 6</td>
<td>595</td>
<td>24.6 (0.9)</td>
<td>47.4 (2.4)</td>
</tr>
<tr>
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<td>7–8</td>
<td>1,089</td>
<td>47.0 (1.2)</td>
<td>54.5 (1.9)</td>
</tr>
<tr>
<td></td>
<td>≥ 9</td>
<td>604</td>
<td>28.4 (0.9)</td>
<td>57.0 (2.4)</td>
</tr>
</tbody>
</table>

BMI, body mass index.
†Unweighted frequency, ‡weighted percentile.

a decline in physical activity and an increased consumption of calorie-dense foods, such as sugary snacks [27]. A study on Korean adults found that the consumption of high-sodium foods, such as soups, stews, and stewed dishes, escalated with age among those with pre-obesity and above [28]. Given that high sodium intake has been linked to an elevated risk of obesity [29], the rising prevalence of pre-obesity and above in Korean adult women could be associated with such unhealthy dietary habits. Therefore, to minimize the prevalence of pre-obesity and obesity, it is essential to promote lifestyle changes that encourage physical
activity and to provide education on healthy eating practices, including the reduction of salty food consumption. Additionally, active interventions by nutrition professionals are necessary \[16,28\].

In this study, the prevalence of pre-obesity and above was higher among adult women with lower educational levels. This finding aligns with previous research indicating that lower education is associated with a higher prevalence of pre-obesity and above \[25\] as well as obesity alone \[30,31\], and it challenges studies suggesting that a higher educational level correlates with increased rates of pre-obesity and above \[16\]. Additionally, the prevalence of pre-obesity and above was greater among those with middle income compared to those with high income. This observation is consistent with studies showing that lower income is linked to a higher prevalence of pre-obesity and above \[32\] and obesity \[30,31\], while contradicting separate findings regarding pre-obesity and above \[16\]. Given that obesity rates differ by socioeconomic status across countries, research on Korean women indicates that the higher prevalence of obesity among those with lower education and income levels reflects the socioeconomic development in Korea \[30\]. Therefore, based on the results of this study and previous research, Korean women with lower education and income levels are more likely to experience pre-obesity or obesity. Women with higher educational levels tend to adopt healthier lifestyles and eating habits, as they possess greater knowledge about health and nutrition and are more cognizant of the consequences of obesity \[26\]. Furthermore, income influences health behaviors such as healthy eating and participation in weight control programs, with higher income levels offering fewer restrictions on health behavior choices \[33\]. Consequently, it is imperative to raise awareness about the risks associated with pre-obesity and obesity and to implement education and mass media campaigns that promote healthy lifestyles and eating habits. Additionally, providing free programs for low-income individuals and increasing economic support at the community or national level are necessary steps to address these health concerns.

In the present study, the prevalence of pre-obesity and above was lower in adult women who engaged in muscle-strengthening activities at least 2 days per week compared to those who did not. This finding aligns with research indicating that engaging in muscle-strengthening activities at this frequency is linked to a lower body fat percentage. However, our study contrasts with earlier research \[17\] suggesting no association between muscle-strengthening activities and obesity. This discrepancy may stem from differences in the study populations; our research encompassed women aged 19–64 years, while the prior study \[17\] was limited to those aged 19–39 years. Exercise, including aero-

### Table 3. Factors associated with pre-obesity and above in adult women (N=2,288)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Categories</th>
<th>Odds ratio (95% CI)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (year) †</td>
<td>60–64</td>
<td>1.80 (1.06–3.05)</td>
<td>.029</td>
</tr>
<tr>
<td></td>
<td>50–59</td>
<td>1.67 (1.09–2.57)</td>
<td>.019</td>
</tr>
<tr>
<td></td>
<td>40–49</td>
<td>1.27 (0.86–1.88)</td>
<td>.236</td>
</tr>
<tr>
<td></td>
<td>30–39</td>
<td>0.94 (0.63–1.40)</td>
<td>.771</td>
</tr>
<tr>
<td>Education †</td>
<td>Less than high school</td>
<td>1.60 (1.09–2.35)</td>
<td>.017</td>
</tr>
<tr>
<td></td>
<td>High school</td>
<td>1.28 (1.04–1.57)</td>
<td>.018</td>
</tr>
<tr>
<td>Income †</td>
<td>Low</td>
<td>1.63 (0.95–2.79)</td>
<td>.075</td>
</tr>
<tr>
<td></td>
<td>Middle-low</td>
<td>1.40 (1.00–1.95)</td>
<td>.052</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>1.55 (1.14–2.09)</td>
<td>.005</td>
</tr>
<tr>
<td></td>
<td>Middle-high</td>
<td>1.14 (0.86–1.52)</td>
<td>.352</td>
</tr>
<tr>
<td>Marital status †</td>
<td>Married</td>
<td>1.39 (0.99–1.94)</td>
<td>.058</td>
</tr>
<tr>
<td>Head of household †</td>
<td>Yes</td>
<td>1.01 (0.80–1.27)</td>
<td>.942</td>
</tr>
<tr>
<td>Muscle-strengthening activity † (days/week)</td>
<td>&lt;2</td>
<td>1.37 (1.05–1.77)</td>
<td>.019</td>
</tr>
<tr>
<td>Weekday sleep duration † (hours/day)</td>
<td>≤ 6</td>
<td>1.37 (1.04–1.79)</td>
<td>.025</td>
</tr>
<tr>
<td></td>
<td>≥ 9</td>
<td>0.95 (0.60–1.52)</td>
<td>.830</td>
</tr>
<tr>
<td>Weekend sleep duration † (hours/day)</td>
<td>≤ 6</td>
<td>0.92 (0.67–1.25)</td>
<td>.589</td>
</tr>
<tr>
<td></td>
<td>≥ 9</td>
<td>1.11 (0.84–1.47)</td>
<td>.478</td>
</tr>
</tbody>
</table>

CI, confidence interval.

†The dummy variable references were age (19–29 years), education (college or higher), income (high), marital status (unmarried), head of household (no), muscle-strengthening activity (≥2 days/week), weekday sleep duration (7–8 hours/day), and weekend sleep duration (7–8 hours/day).
bic and strength training, is associated with changes in body composition and weight loss [35,36]. Strength training, in particular, has been shown to be more effective for fat loss in individuals with pre-obesity [35,37]. Consequently, it is advisable for women to participate in muscle-strengthening activities at least 2 days per week to prevent and manage obesity. Despite these benefits, it has been reported that women are less likely than men to engage in muscle-strengthening activities [38]. Therefore, there is a need for strategies to increase participation among women, such as providing education about the benefits of strength training, raising awareness, and administering simple and accessible strength training programs. Moreover, there is a relative scarcity of research on the relationship between muscle-strengthening activities and obesity compared to aerobic exercise [39]. Therefore, further studies are necessary to explore the relationship between the type, intensity, and frequency of muscle-strengthening activities and obesity. Based on the findings of such research, a variety of strength training programs should be developed and offered.

In this study, the prevalence of pre-obesity and above was higher in adult women who slept 6 or fewer hours per night compared to those who slept 7 to 8 hours. This observation aligns with previous research [40,41] indicating a greater prevalence of pre-obesity and obesity among women with shorter sleep durations. A meta-analysis examining the link between sleep duration and health outcomes revealed that short sleep is associated with obesity [42]. Furthermore, epidemiological evidence suggests a relationship between reduced sleep duration and increased rates of pre-obesity and obesity, both cross-sectionally and longitudinally [43]. Sleep deprivation can lead to increased hunger by elevating levels of the appetite-stimulating hormone ghrelin, which, in turn, can lead to increased food intake and contribute to obesity [44]. From a behavioral perspective, engaging in less sleep may also heighten obesity risk by extending the period of wakefulness, which can result in increased food consumption [41]. Consequently, ensuring adequate sleep is essential for obesity prevention, and a range of strategies, including education and promotion, should be implemented.

This study examined the prevalence of pre-obesity and above, as well as associated factors, in adult women by analyzing data from the KNHANES, a nationally representative dataset. However, our analysis did not account for dietary variables when examining associated factors. Consequently, future research should incorporate these variables to better identify related factors. Moreover, as our study was limited to adult women aged 19–64 years, subsequent studies should include older women. This would enable a more extensive understanding of the prevalence of pre-obesity and obesity, as well as associated factors, across age groups, which is crucial for effective obesity prevention and management throughout a woman’s life. Lastly, while this study collectively addressed pre-obesity and obesity, future research should differentiate between the two groups. Separate analysis will help to elucidate the differences in prevalence and associated factors between these populations.

Despite these limitations, the study is meaningful in that it extends beyond obesity to determine the prevalence of pre-obesity and above, as well as its associated factors, in adult women. Nearly half of the adult women in this study exhibited pre-obesity or above, underscoring the importance of including pre-obesity in obesity prevention and management strategies. Additionally, the findings provide a basis for comparison of changes in the prevalence or associated factors of pre-obesity and above in future research.

In conclusion, since nearly half of adult women fall into the pre-obesity category or higher, it is essential to include women with pre-obesity in obesity prevention and management strategies. Priority should be given to women aged 50 years and above, as well as those with lower levels of education and income. Additionally, maintaining a sleep duration of at least 7 hours and engaging in muscle-strengthening activities a minimum of 2 days per week are necessary measures.

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**Authors’ contributions**

All work was done by Chae HJ.

**Conflict of interest**

The author declared no conflict of interest.

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None.

**Data availability**

Please contact the corresponding author for data availability.
Acknowledgments

None.

References


the Study of Obesity; 2022.


Psychometric testing of the Chinese version of the Perinatal Infant Care Social Support tool: a methodological study

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Purpose: This study aimed to translate the Perinatal Infant Care Social Support (PICSS) instrument into Chinese and to verify the reliability and validity of the translated version.

Methods: This study used a cross-sectional design to examine the reliability and validity of the Chinese version of the PICSS (C-PICSS). A cohort of 150 first-time mothers in China participated, attending hospital follow-up care at 6 weeks postpartum. Data were collected after obtaining informed consent from the mothers.

Results: The majority of mothers were aged between 20 and 29 years, with a mean age of 26.25 (±3.90) years. An item analysis of the 19 items in the C-PICSS showed that all items had an item-total score correlation above 0.2. This resulted in a Kaiser-Meyer-Olkin value of 0.92 and a significant Bartlett’s test of sphericity ($\chi^2=1,778.65, p<.001$), confirming the suitability of the data for factor analysis. Correlation analyses revealed a strong positive relationship between infant care social support and general social support ($r=.62, p<.001$), and a negative relationship between infant care social support and postpartum depression ($r=–.38, p<.001$). Higher scores for infant care social support were associated with reporting positive relationships with their husbands ($t=3.72, p<.001$) and high levels of spousal involvement ($t=4.09, p<.001$). In terms of structural support, spouses were identified as the primary source.

Conclusion: The research results indicate that C-PICSS is reliable and valid as an indicator of social support for infant care among Chinese mothers.

Keywords: Infant care; Mothers; Primiparity; Social support; Tool translation

Introduction

According to Mercer’s theory of becoming a mother, mothers acknowledge the changes that motherhood necessitates following childbirth. They actively seek information, identify role models, and become empowered to embrace the role of motherhood as part of an ongoing process [1]. Mothers engage in the practice of motherhood through interactions with family members, including their spouses and infants. They also continue to draw on the support of family, friends, and the wider community [2]. As mothers adapt to their new role, they focus on recovering their physical and mental health, fostering healthy interactions between themselves and their infants, as well as between themselves and their partners, and they learn the skills necessary for infant care [1].

First-time mothers often experience stress, anxiety, and a lack of confidence in their parenting abilities due to their inexperience with infant care as they navigate the uncharted territory of motherhood [3]. During this period, they require support from someone who can help them recognize their infant’s care...
Summary statement

- What is already known about this topic?
  Providing social support to postpartum women can help them transition smoothly to the role of mothers. In the Chinese context, various tools exist for measuring postpartum social support, but there is a lack of structural and functional social support tools that focus on infant care.

- What this paper adds
  This study confirmed the validity of the Perinatal Infant Care Social Support scale (PICSS), which measures the structural and functional support received by Chinese mothers after childbirth.

- Implications for practice, education, and/or policy
  The Chinese version of the PICSS can be used to evaluate the levels of social support for infant care in Chinese postpartum women.

needs—including nutrition, elimination, bathing, and responding to crying—and who can either teach them caregiving skills, assist with these tasks, or perform them as needed [4]. The amount and quality of postpartum social support are crucial for mothers to address their unmet needs, overcome parenting fears, build confidence in caring for their infants, and develop a maternal identity as they transition into motherhood [5,6]. Thus, there is a need for tools that can accurately measure the support related to infant care during the postpartum period.

A review of research on social support among first-time mothers in China found that a lack of social support made mothers’ role transition difficult, reduced satisfaction with their maternal role, and decreased their sense of parenting fulfillment, satisfaction, and happiness [7]. Difficulties in postpartum coping, stemming from inadequate infant care skills, were found to correlate negatively with postpartum social support [8]. Furthermore, studies have indicated that mothers experience higher levels of postpartum depression [7,8] and anxiety [9] when they perceive their social support to be lacking [9-11]. Conversely, higher social support has been linked to improved maternal role performance and easier adjustment to motherhood [12]. Social support specifically tailored to infant care has been demonstrated to strengthen first-time mothers’ confidence in caring for their newborns, facilitate their adaptation to motherhood, indirectly reduce postpartum depression, improve marital satisfaction, and positively influence sleep quality [13].

A review of instruments used internationally to measure social support among Chinese mothers identified a range of assessed support types, such as the kinds of support [8], sources of social support [9,14], and both the perceived importance and the actual support received [15]. Additionally, studies have measured objective support, subjective support, and the utilization of social support using instruments specifically designed for the Chinese context and culture [7,11].

The instruments previously discussed, however, have limitations in that they assess social support solely in terms of structure (resources) or function (types), without considering both. Moreover, these tools generally inquire about the frequency and resources of help but lack items specific to social support for infant care. The Perinatal Infant Care Social Support (PICSS) scale, which has been recently developed to measure social support for infant care, is tailored specifically for mothers in the perinatal setting and evaluates both functional and structural aspects of social support [16]. Functional support within this domain gauges the extent to which new mothers receive practical assistance, including informational support, as well as a network that offers encouragement, comfort, and appreciation for their baby care efforts. This could be a valid measure of social support for new mothers during the postpartum period, particularly in the context of infant care [16,17]. Structural support, in contrast, identifies who in the social network provides this support [16]. Consequently, this instrument is well-suited to assess the social support necessary for infant care, addressing both structural and functional aspects to facilitate mothers’ successful transition into motherhood.

Given the cultural differences in China, where mothers often depend on in-laws or biological parents for child-rearing support, as opposed to Western practices, it is crucial to adapt and refine instruments to ensure the adequacy of support resources and the relevance of infant care items for the Chinese context. Therefore, this study aimed to translate the PICSS, which measures both structural and functional support for infant care, into Chinese
and to evaluate its validity.

This study aimed to conduct and evaluate psychometric testing of the Chinese version of the PICSS (C-PICSS). The specific purposes were as follows: (1) to translate the PICSS into Chinese, and (2) to verify its reliability and validity to employ it as a tool for measuring social support in infant care.

**Methods**

**Ethics statement:** This study was approved by the Institutional Review Board of Chungnam National University in Daejeon, Korea (202204-SB-050-01). Written informed consent was obtained from the research participants.

**Study design**

This methodological study examined the reliability and validity of the C-PICSS, employing a cross-sectional survey. This study adhered to the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines [18].

**Tool translation procedure**

The first author translated the original version of the PICSS [16] into Chinese after obtaining permission to use the tool from the PICSS developer. The Korean version of the PICSS [17], which has been translated and validated with Korean postpartum women, was selected for translation into Chinese, considering that the Chinese culture of parenting, such as receiving help from in-laws/biological parents, is different from that of the West and closer to that of Korea. The developer of the Korean version of the PICSS provided permission and consultation during the translation process. The original tool was also actively reviewed to ensure accuracy.

The procedure for translating from Korean to Chinese followed five steps (Figure 1). In step 1, a graduate student bilingual in Korean and Chinese translated the first translation. In step 2, another bilingual graduate student reviewed the Chinese translation, providing feedback to ensure the language was smooth and the meaning was accurately conveyed. Improvements were made in collaboration with the initial translator. In step 3, a PhD student, fluent in both languages, independently back-translated the revised Chinese version into Korean. In step 4, the back-translated version and the original Korean instrument were reviewed by two professors specializing in women's health nursing, who are proficient in both languages. They compared the two versions for inconsistencies arising from linguistic or cultural differences and provided suggestions for alternative words and expressions. In the final step, the first author and translator in steps 2 and 3 reviewed the Chinese translation for equivalence with the original instrument. During the comparison of the finalized version, any discrepancies in meaning were addressed by adjusting the wording to reflect the intended meaning more accurately. For instance, item 5, which originally read “Someone tells me that they are grateful to me,” was revised to “I have someone who expresses gratitude to me.” Subsequently, we evaluated the content validity of the translation by re-examining the meaning conveyed by each item, taking cultural and linguistic considerations into account. The feedback received confirmed that the translation was appropriate. Consequently, the C-PICSS was finalized.

**Participants**

The study participants comprised 150 Chinese mothers at the Maternal and Child Health Hospital in Hebi City, Henan Province, China, who attended follow-up care at 6 weeks postpartum. The inclusion criteria were first-time mothers aged 20 years or older who were approximately 6 weeks postpartum, without any complications related to pregnancy, childbirth, or the postpartum period, and who were personally caring for their infants at home. The exclusion criteria were women with an infant who was currently hospitalized or cared for by someone other than...
The researcher (first author) posted a recruitment notice on the outpatient bulletin board of the maternity department at a tertiary hospital, located in Hebi, a large Chinese city in Henan Province. Interested mothers were invited to approach the researcher for more information. The researcher then explained the study’s purpose and methods to these mothers, assessed their eligibility, and presented an informed consent form to those who qualified. Mothers who chose to participate voluntarily signed an informed consent form.

Based on a minimum of 5 to 10 participants per item required for tool development [19], considering the 19 items of this instrument, a minimum of 95 and a maximum of 190 participants were deemed necessary. Therefore, 150 participants were recruited for this study.

**Instrument**

The finalized version of the 19-item C-PICSS assesses the functional and structural social support mothers require for infant care. The original PICSS functional support domain includes a support system and practical support [16]. In contrast, the Korean version of Perinatal Infant Care Social Support (K-PICSS) [17] is divided into three domains: informational support, support system, and practical support. Responses to each item range from 1, indicating “never,” to 5, indicating “always,” with higher scores (possible range, 19–95) denoting greater levels of social support. The reliability of the original instrument was demonstrated with a Cronbach’s α of .90 for the support system domain and .86 for the practical support domain [16]. The K-PICSS [17] showed subscale reliability values between .82 and .83, and the overall reliability of the instrument was .90. A Cronbach’s α for the K-PICSS overall was .90. The validity of the instrument has been confirmed as well.

In the structural support domain, doctors and nurses are categorized as professional sources of support, while husbands, parents-in-law, parents, sisters, friends, neighbors, and the internet are considered nonprofessional sources. Structural support involves identifying the sources of support for each item and subsequently evaluating the frequency and percentage of utilization for each source.

Construct validity was evaluated through exploratory factor analysis, correlation analysis, and known-group comparisons. For known-group comparison, the following general characteristics were assessed: maternal age, occupation, education, family monthly income, economic level, relationship with husband, husband’s involvement in postpartum care, maternal health status, and the baby’s health status. To evaluate the concurrent validity of the C-PICSS, its correlations with social support and postpartum depression were assessed.

**Postpartum social support**

To measure the concurrent validity of the C-PICSS, we utilized the Chinese version [15] of the Postpartum Social Support Questionnaire (PSQ) [15]. Comprising 34 items, the PSQ is divided into four domains: material support, emotional support, informational support, and peer support. Respondents rate each item on a 7-point scale, where 1 signifies no support, and 7 indicates a high level of support. Higher scores (possible range, 34–238) reflect greater satisfaction with the received social support. This questionnaire has a reliability coefficient of .94 and a content validity index of .96. In our study, the reliability of the PSQ was confirmed with a Cronbach’s α of .96.

**Postpartum depression**

The Chinese version of the Edinburgh Postnatal Depression Scale (EPDS) [20] was utilized to measure the concurrent validity of the C-PICSS. The EPDS consists of 10 items, each rated on a 4-point scale, with item scores ranging from 0 to 3 (possible range, 0–30). The threshold for depression is set at a score of 9/10 in China [21], with scores from 0 to 9 considered normal and scores of 10 or higher indicating a risk for depression. Higher scores suggest more severe depressive symptoms. The reliability was reported with a Cronbach’s α of .76, and its content validity was .93. In this study, the instrument’s reliability was demonstrated by a Cronbach’s α of .86.

**Data collection**

The data collection period spanned from October 24 to December 19, 2022. The researcher outlined the study’s objectives and methods to the outpatient nurses responsible for obstetrics and gynecology at the Maternal and Child Health Hospital in Hebi City, Henan Province, China, requesting their assistance with the research. The first author posted subject recruitment flyers on hospital notice boards; potential participants visited the first author to verify eligibility and explain the aims and methods of the study. Once the mothers consented to participate, they filled out the study questionnaire once, which took approximately 15 minutes, and then returned it to the researcher. As a token of appreciation for their participation, the mothers were given baby wipes as a gift.

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Data analysis
The collected data were analyzed using IBM SPSS ver. 26.0 (IBM Corp., Armonk, NY, USA), and the statistical significance level was set at less than 5%. Exploratory factor analysis was performed to assess the construct validity of the C-PICSS. To evaluate the concurrent validity of the C-PICSS, correlation analysis was carried out with measures of postpartum social support and depression. Construct validity was further assessed through comparisons between known groups. Reliability testing included item analysis and assessment of the instrument’s consistency in measuring the phenomenon. Differences in infant care social support according to participants’ characteristics were examined using the t-test or one-way analysis of variance.

Results

Characteristics of participants
Most mothers (80.0%) were between 20 and 29 years old, with a mean age of 26.25 (± 3.90) years. Of these mothers, 37.3% were employed and 48.7% were college graduates or higher. Most (87.3%) had a monthly household income of 3,000 Chinese yuan (approximately 415 US dollars) or more, which corresponds to middle class and above based on 3,073 yuan as a monthly average income in 2022 statistics [22], and 65.3% reported middle-class economic status. Two-thirds of mothers (66.7%) delivered vaginally, 93.3% reported that they were in good health, and 84.0% perceived their infants as being in good health. Three-fourths of mothers (76.0%) reported a good relationship with their husbands, and 72.7% indicated a high level of husband’s involvement in postpartum care (Table 1).

Construct validity
Item analysis of the 19 items in the C-PICSS revealed that all item-total correlations were above 0.3, so all items were included in the factor analysis. Exploratory factor analysis confirmed construct validity, with a Kaiser-Meyer-Olkin value of 0.92 and a

Table 1. Differences in Perinatal Infant Care Social Support by participant characteristics (N=150)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Categories</th>
<th>n (%)</th>
<th>Mean ± SD</th>
<th>t/F (p) Scheffé</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (year)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20–29</td>
<td>120 (80.0)</td>
<td>67.06 ± 14.99</td>
<td>–0.36 (.715)</td>
</tr>
<tr>
<td></td>
<td>≥ 30</td>
<td>30 (20.0)</td>
<td>65.90 ± 17.94</td>
<td></td>
</tr>
<tr>
<td>Job</td>
<td>Yes</td>
<td>56 (37.3)</td>
<td>72.10 ± 15.28</td>
<td>3.30 (.001)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>94 (62.7)</td>
<td>63.69 ± 14.95</td>
<td></td>
</tr>
<tr>
<td>Level of education</td>
<td>Primary or Secondary school&lt;sup&gt;a&lt;/sup&gt;</td>
<td>34 (22.6)</td>
<td>62.41 ± 17.52</td>
<td>4.39 (.014)</td>
</tr>
<tr>
<td></td>
<td>High school or vocational school&lt;sup&gt;b&lt;/sup&gt;</td>
<td>43 (28.7)</td>
<td>63.97 ± 13.79</td>
<td>a &lt; c</td>
</tr>
<tr>
<td></td>
<td>University and above&lt;sup&gt;c&lt;/sup&gt;</td>
<td>73 (48.7)</td>
<td>70.57 ± 14.89</td>
<td></td>
</tr>
<tr>
<td>Monthly household income (CNY)</td>
<td>&lt; 3,000</td>
<td>19 (12.7)</td>
<td>60.78 ± 19.95</td>
<td>3.12 (.028)</td>
</tr>
<tr>
<td></td>
<td>3,000–5,000</td>
<td>48 (32.0)</td>
<td>65.85 ± 14.11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5,000–8,000</td>
<td>42 (28.0)</td>
<td>65.14 ± 16.63</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 8,000</td>
<td>41 (27.3)</td>
<td>72.51 ± 12.33</td>
<td></td>
</tr>
<tr>
<td>Economic level perceived</td>
<td>High&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3 (2.0)</td>
<td>69.33 ± 10.06</td>
<td>9.36 (&lt;.001)</td>
</tr>
<tr>
<td></td>
<td>Middle&lt;sup&gt;b&lt;/sup&gt;</td>
<td>98 (65.3)</td>
<td>70.50 ± 15.09</td>
<td>b &gt; c</td>
</tr>
<tr>
<td></td>
<td>Low&lt;sup&gt;c&lt;/sup&gt;</td>
<td>49 (32.7)</td>
<td>59.34 ± 14.25</td>
<td></td>
</tr>
<tr>
<td>Type of delivery</td>
<td>Vaginal birth</td>
<td>100 (66.7)</td>
<td>68.47 ± 15.75</td>
<td>1.83 (.069)</td>
</tr>
<tr>
<td></td>
<td>Cesarean birth</td>
<td>50 (33.3)</td>
<td>63.56 ± 14.81</td>
<td></td>
</tr>
<tr>
<td>Maternal health status</td>
<td>Good</td>
<td>140 (93.3)</td>
<td>67.22 ± 15.67</td>
<td>1.16 (.246)</td>
</tr>
<tr>
<td></td>
<td>Not good</td>
<td>10 (6.7)</td>
<td>61.30 ± 13.62</td>
<td></td>
</tr>
<tr>
<td>Infant’s health status</td>
<td>Good</td>
<td>126 (84.0)</td>
<td>68.00 ± 15.15</td>
<td>2.12 (.035)</td>
</tr>
<tr>
<td></td>
<td>Not good</td>
<td>24 (16.0)</td>
<td>60.70 ± 16.60</td>
<td></td>
</tr>
<tr>
<td>Relationship with husband</td>
<td>Good</td>
<td>114 (76.0)</td>
<td>69.38 ± 15.13</td>
<td>3.72 (&lt;.001)</td>
</tr>
<tr>
<td></td>
<td>Moderate/Poor</td>
<td>36 (24.0)</td>
<td>58.75 ± 14.30</td>
<td></td>
</tr>
<tr>
<td>Husband’s involvement in</td>
<td>High</td>
<td>109 (72.7)</td>
<td>69.87 ± 14.94</td>
<td>4.09 (&lt;.001)</td>
</tr>
<tr>
<td>postpartum care</td>
<td>Low</td>
<td>41 (27.3)</td>
<td>58.75 ± 14.42</td>
<td></td>
</tr>
</tbody>
</table>

CNY: Chinese Yuan (5,000 CNY is roughly 692 US dollars).
Bartlett’s test of sphericity yielding $\chi^2 = 1,778.65$ ($p < .001$), indicating the data were appropriate for factor analysis. Commonality scores ranged from a minimum of .51 to a maximum of .74, all exceeding the threshold of .4. Utilizing principal component analysis, an eigenvalue cutoff of 1 or higher, and varimax rotation, three factors emerged. The eigenvalues for these factors were 4.14, 4.06, and 3.92, with the respective explanatory powers being 21.80%, 21.39%, and 20.64%, yielding a total explanatory power of 63.83%.

After checking the properties of the three factors in the C-PICSS, we assigned names to each. Factor 1 was termed “practical support,” as it contained items evaluating the mother’s receipt of tangible assistance, including household chores, childcare, and bathing. Factor 2 was designated “informational support,” reflecting its focus on providing information to mothers regarding infant care practices such as bathing, feeding, and dressing. Factor 3 was labeled “support system” because its elements are related to various sources of support systems to meet mothers’ infant care needs. The reliability of the subscales was high, with Cronbach’s α values ranging from .87 to .89, and the overall reliability of the instrument was shown by a Cronbach’s α of .93 (Table 2).

**Concurrent validity**
The correlations ($r$) among the three subdomains of infant care social support ranged from .85 to .92 ($p < .001$). The C-PICSS demonstrated a positive moderate correlation with social support in the postpartum period ($r = .62$, $p < .001$) and exhibited a negative weak correlation with postpartum depression ($r = –.38$, $p < .001$) (Table 3).

**Known-group comparison**
To test the instrument’s validity using a comparison group, we investigated differences in C-PICSS scores according to the relationship with the husband and the level of the husband’s involvement in postpartum care. Participants who reported a good relationship with their husbands had higher C-PICSS scores than those with a poor relationship ($t = 3.72$, $p < .001$). Similarly, scores were higher for participants whose spouses were highly involved in postpartum care than for those with spouses who were less involved ($t = 4.09$, $p < .001$) (Table 4).

**Levels of C-PICSS: structural and functional support**
The results for structural and functional support, as shown by the infant care social support items, were evaluated. In the structural support assessment, the spouse was the first choice for practical support, followed by parents-in-law and parents. Regarding informational support, friends ranked first, followed by spouses, doctors, and parents-in-law. In the support system category, spouses were the most common, followed by friends and parents. Overall, the spouse was the primary source of support.

In the functional support assessment, participants’ scores were as follows: 21.08 (±5.45) for practical support (item mean, 3.27–3.64), 20.82 (±5.22) for information support (item mean, 3.34–3.64), and 24.92 (±6.70) for the support system (item mean, 3.04–3.64), for a total score of 66.83±15.57 (Table 5).

**Differences in C-PICSS by participant characteristics**
Mothers with a job ($t = 3.30$, $p = .001$), college or higher education ($t = 4.39$, $p = .014$), high family monthly income ($t = 3.12$, $p = .028$), and moderate economic status ($F = 9.36$, $p < .001$) had higher social support for infant care than their counterparts. Furthermore, the infant care social support scores were higher if the baby was in good health ($t = 2.12$, $p = .035$) (Table 1).

**Discussion**
This study translated the original PICSS into Chinese to develop the C-PICSS. It determined the reliability and validity of this instrument, which measures the social support Chinese mothers receive when caring for their postpartum infants. The findings indicated that the C-PICSS is a reliable and valid tool for evaluating social support for infant care among Chinese mothers.

This study adhered to established guidelines for instrument translation to maintain the content validity of the original tool. Throughout the translation phase, professors specializing in women’s health nursing and Chinese international nursing students at the graduate level scrutinized the translated version for linguistic accuracy and semantic integrity, ensuring its cultural adaptation to the Chinese context and fidelity to the linguistic environment. During data collection, participants evaluated each item on the C-PICSS instrument regarding functional and structural support resources. Since the Chinese mothers comprehended and responded to all 19 items, the C-PICSS item expressions appear to be congruent with Chinese culture and the linguistic environment.

The construct validity of the C-PICSS was established through exploratory factor analysis, correlation analysis, and known-group comparisons. The exploratory factor analysis revealed three subdomains of functional support: practical support, informational support, and support system. These subdomains align with the three identified in the K-PICSS [17]. Regarding struc-
### Table 2. Factor analysis of the Chinese version of the Perinatal Infant Care Social Support scale (N=150)

<table>
<thead>
<tr>
<th>Items</th>
<th>Practical support</th>
<th>Informational support</th>
<th>Support system</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. I won’t be on my own taking care of my infant.</td>
<td>.80</td>
<td>.10</td>
<td>.22</td>
</tr>
<tr>
<td>我不用自己独自一个人照顾孩子</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. I can get hands-on help with comforting my infant.</td>
<td>.75</td>
<td>.34</td>
<td>.31</td>
</tr>
<tr>
<td>我哄孩子的时候可以得到直接的帮助</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. I have someone to help with routine housework.</td>
<td>.72</td>
<td>.22</td>
<td>.24</td>
</tr>
<tr>
<td>我有帮我做家务的人</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I can get hands-on help with infant changing/dressing.</td>
<td>.72</td>
<td>.30</td>
<td>.35</td>
</tr>
<tr>
<td>我在给孩子更换衣服的时候可以得到直接的帮助</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. I can get hands-on help with infant bathing.</td>
<td>.67</td>
<td>.30</td>
<td>.05</td>
</tr>
<tr>
<td>我给孩子洗澡的时候可以得到直接的帮助</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. I can get hands-on help with infant feeding.</td>
<td>.50</td>
<td>.39</td>
<td>.40</td>
</tr>
<tr>
<td>我可以在哺乳宝宝方面获得直接的帮助</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. I can get information on taking care of my body after birth.</td>
<td>.14</td>
<td>.80</td>
<td>.22</td>
</tr>
<tr>
<td>我可以获得有关产后调理的相关信息（比如身体的管理）</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. I can get consistent information on infant care.</td>
<td>.23</td>
<td>.76</td>
<td>.17</td>
</tr>
<tr>
<td>我可以获得有关育儿的一致信息</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. I can get information on infant bathing.</td>
<td>.28</td>
<td>.73</td>
<td>.12</td>
</tr>
<tr>
<td>我可以获得有关婴儿沐浴的相关信息</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. I can get information on infant feeding.</td>
<td>.32</td>
<td>.70</td>
<td>.20</td>
</tr>
<tr>
<td>我可以获得哺乳的相关信息</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I can get information on infant comfort/settling.</td>
<td>.34</td>
<td>.57</td>
<td>.25</td>
</tr>
<tr>
<td>我可以获得哄孩子相关的信息</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I can get information on infant changing/dressing.</td>
<td>.47</td>
<td>.54</td>
<td>.22</td>
</tr>
<tr>
<td>我可以获得给孩子更换衣服的相关信息</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I have someone who shows me appreciation.</td>
<td>.18</td>
<td>.09</td>
<td>.75</td>
</tr>
<tr>
<td>有人向我表达谢意</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I have someone to talk to about how I feel.</td>
<td>.20</td>
<td>.29</td>
<td>.75</td>
</tr>
<tr>
<td>我有可以倾诉情绪/倾诉感受的人</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Those close to me understand that it is ok for me to need help.</td>
<td>.15</td>
<td>.28</td>
<td>.73</td>
</tr>
<tr>
<td>我身边的人理解，我需要帮助是理所当然的</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. I have someone to care for and comfort me.</td>
<td>.34</td>
<td>.11</td>
<td>.72</td>
</tr>
<tr>
<td>我有照顾和安慰我的人</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. If I need advice there is someone who will assist me.</td>
<td>.28</td>
<td>.30</td>
<td>.62</td>
</tr>
<tr>
<td>我需要建议的时候，有可以给我提供帮助的人</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I have people to count on when things go wrong.</td>
<td>.50</td>
<td>.14</td>
<td>.55</td>
</tr>
<tr>
<td>即使我做的不好，也有可以依靠的人</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I have someone to talk to and share experiences with.</td>
<td>.00</td>
<td>.59</td>
<td>.53</td>
</tr>
<tr>
<td>我有可以与之交谈和分享经验的人</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eigenvalue</td>
<td>4.14</td>
<td>4.06</td>
<td>3.92</td>
</tr>
<tr>
<td>Explained variance (%)</td>
<td>21.80</td>
<td>21.39</td>
<td>20.64</td>
</tr>
<tr>
<td>Cumulated variance (%)</td>
<td>21.80</td>
<td>43.19</td>
<td>63.83</td>
</tr>
<tr>
<td>Range of item-total correlation</td>
<td>62–82</td>
<td>66–71</td>
<td>59–71</td>
</tr>
<tr>
<td>Cronbach’s α for subscales</td>
<td>.89</td>
<td>.87</td>
<td>.87</td>
</tr>
<tr>
<td>Cronbach’s α for C-PICSS</td>
<td></td>
<td>.93</td>
<td></td>
</tr>
</tbody>
</table>
tural support, spouses and friends were identified as primary sources, while in-laws and parents were also commonly utilized for support. This pattern mirrors the findings of a Korean study [17]. It likely reflects the similarities in mothers’ infant care practices, support sources, and support needs across Asian cultures, as opposed to Western cultures.

The practical support domain of infant care includes assistance with care needs such as sharing household chores, providing infant care support, and helping with bathing. These forms of assistance are key facilitators for mothers adjusting to their new role [16]. When Chinese mothers received emotional support and practical help with infant care from family, friends, or professionals, it helped them adapt to stress and emotional challenges during the postpartum period, reducing the incidence of postpartum depression and coping difficulties [7,8]. Furthermore, in Chinese mothers, receiving higher levels of support regarding parenting information and postpartum care needs, including bathing, feeding, and dressing their infants, was associated with fewer postpartum coping difficulties [8]. For Chinese mothers, a support system that offered attention, encouragement, comfort, and positive feedback strengthened their confidence in fulfilling their maternal roles. This led to improved role performance and greater parental satisfaction [12]. These findings indicate that, besides practical and informational support, encouraging, positive verbal reinforcement and supportive attitudes are important factors in adjusting to motherhood.

Mothers were found to utilize multiple sources of support to meet their infant care needs. For practical support, spouses were the primary source, followed by in-laws and the mothers’ own parents. Similarly, in emotional support, spouses were again the main providers, with friends and parents also playing significant roles. This aligns with a study of Korean mothers [17], which indicated that husbands were the most frequent source of support across both domains. Additionally, traditional postpartum care customs are still prevalent in Chinese families, with the majority of postpartum care occurring at home. Here, spouses, parents-in-law, and other relatives play key roles in supporting the mother’s postpartum needs. Conversely, regarding informational support, friends were the most common source, followed by spouses. This contrasts with the findings from a study on Korean mothers [17], where parents were the main sources, followed by friends and spouses. This discrepancy may stem from China’s extended family structure instead of Korea’s nuclear family orientation. Korean mothers may depend more on their parents for information, even if they live far away. In contrast, the younger average age of Chinese mothers in this study (26 years) suggests they may be more inclined to leverage the convenience of information sharing and acquisition through smartphones. Chatting with friends allows them to access parenting and postpartum care information readily. The opportunity for mothers to share their experiences, gain reassurance, and feel understood during the significant life transition of the perinatal period is greatly enhanced by the support of friends, particularly those who are also mothers [23].

In China, hospitals provide telephone counseling to mothers...
Table 5. Levels of Chinese Perinatal Infant Care Social Support scale: Structural and Functional Support (N=150)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Item</th>
<th>Structural support, n (%)</th>
<th>Functional support, Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Husband</td>
<td>Parents-in-law</td>
</tr>
<tr>
<td>Practical support</td>
<td>8. I won’t be on my own taking care of my infant.</td>
<td>57 (38.0)</td>
<td>49 (32.7)</td>
</tr>
<tr>
<td></td>
<td>12. I can get hands-on help with comforting my infant.</td>
<td>63 (42.0)</td>
<td>36 (24.0)</td>
</tr>
<tr>
<td></td>
<td>9. I have someone to help with routine housework.</td>
<td>64 (42.7)</td>
<td>49 (32.7)</td>
</tr>
<tr>
<td></td>
<td>13. I can get hands-on help with infant changing/dressing.</td>
<td>69 (46.0)</td>
<td>38 (25.3)</td>
</tr>
<tr>
<td></td>
<td>17. I can get hands-on help with infant bathing.</td>
<td>69 (46.0)</td>
<td>29 (19.3)</td>
</tr>
<tr>
<td></td>
<td>14. I can get hands-on help with infant feeding.</td>
<td>56 (37.3)</td>
<td>18 (12.0)</td>
</tr>
<tr>
<td>Informational support</td>
<td>19. I can get information on taking care of my body after birth.</td>
<td>26 (17.3)</td>
<td>10 (6.7)</td>
</tr>
<tr>
<td></td>
<td>18. I can get consistent information on infant care.</td>
<td>25 (16.7)</td>
<td>25 (16.7)</td>
</tr>
<tr>
<td></td>
<td>16. I can get information on infant bathing.</td>
<td>27 (18.0)</td>
<td>14 (9.3)</td>
</tr>
<tr>
<td></td>
<td>15. I can get information on infant feeding.</td>
<td>29 (19.3)</td>
<td>15 (10.0)</td>
</tr>
<tr>
<td></td>
<td>10. I can get information on infant comfort/settling.</td>
<td>25 (16.7)</td>
<td>26 (17.3)</td>
</tr>
<tr>
<td></td>
<td>11. I can get information on infant changing/dressing.</td>
<td>32 (21.3)</td>
<td>35 (23.3)</td>
</tr>
<tr>
<td>Support system</td>
<td>5. I have someone who shows me appreciation.</td>
<td>86 (57.3)</td>
<td>8 (5.3)</td>
</tr>
<tr>
<td></td>
<td>4. I have someone to talk to about how I feel.</td>
<td>71 (47.3)</td>
<td>2 (1.3)</td>
</tr>
<tr>
<td></td>
<td>3. Those close to me understand that it is ok for me to need help.</td>
<td>61 (40.7)</td>
<td>15 (10.0)</td>
</tr>
<tr>
<td></td>
<td>1. I have someone to care for and comfort me.</td>
<td>90 (60.0)</td>
<td>10 (6.7)</td>
</tr>
<tr>
<td></td>
<td>6. If I need advice there is someone who will assist me.</td>
<td>65 (43.3)</td>
<td>9 (6.0)</td>
</tr>
<tr>
<td></td>
<td>7. I have people to count on when things go wrong.</td>
<td>93 (62.0)</td>
<td>4 (2.7)</td>
</tr>
<tr>
<td></td>
<td>2. I have someone to talk to and share experiences with.</td>
<td>27 (18.0)</td>
<td>3 (2.0)</td>
</tr>
</tbody>
</table>

Total 66.83 ± 15.57
on postpartum day 7, and mothers visit the hospital for postpartum checkups on postpartum days 14 and 42. Despite these multiple opportunities for healthcare providers to provide postpartum information to mothers, they were ranked last as sources of information support. This suggests that healthcare providers are not effectively meeting the needs of mothers seeking specialized parenting information.

Receiving less social support from healthcare professionals has been identified as a predictor of postpartum depression [24]. Conversely, advice from nursing professionals is the most significant factor associated with social support from these professionals [25]. These studies underscore the critical role of healthcare providers in forming supportive partnerships with postpartum mothers. Consequently, it is essential for healthcare providers to be equipped to share their knowledge on postpartum care and parenting effectively. They should also employ strategies to enhance the availability of parenting information, such as distributing hospital mailings and providing links to informational resources or videos on smartphones for mothers.

Spouses were the most important source of both structural and functional support, and social support scores were significantly higher when mothers had a good relationship with their husbands and when their husbands were more involved in the postpartum period. The presence of supportive partners, including husbands or other partners, can serve a protective function by assisting the new mother in adapting to her role and managing any physical or mental health challenges that may arise after childbirth [26]. Furthermore, there was a negative correlation between social support for infant care and postpartum depression, reinforcing the idea that a higher level of maternal social support is linked to a decrease in postpartum depression [9,23,24]. This suggests that improving the mother-spouse relationship could be an effective approach to actively involve them as a source of social support for infant care.

This study demonstrated reliability and validity for the C-PICSS, showing that it can be used to assess social support for infant care among Chinese mothers. However, a limitation of this study is its exclusion of smartphone applications and social network services as potential internet sources of social support, thereby failing to capture the use of smartphone-accessible resources. Korean mothers frequently utilize smartphones to access web and mobile sites for parenting and baby care information [17]. Similarly, in China, mothers can search for keywords on platforms such as Baidu, Sina, and Tencent to find extensive parenting and postpartum care information presented through videos, photos, and text [10]. Future research should, therefore, incorporate a range of digital resources into the concept of structural support to assess their use more comprehensively. Additionally, since this study only enrolled first-time mothers, it is important to investigate whether this social support tool is also applicable to mothers with multiple children. It is also essential to identify the facilitators and barriers to social support and to pursue further research on strategies to enhance social support and secure supportive resources, which will assist mothers in adjusting to motherhood.

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Authors’ contributions

Conceptualization: All authors; Formal analysis: Yi F, Park M; Writing—original draft: Yi F; Writing—review & editing: All authors.

Conflict of interest

The authors declared no conflict of interest.

Funding

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Data availability

Please contact the corresponding author for data availability.

Acknowledgments

None.

References

2. De Sousa Machado T, Chur-Hansen A, Due C. First-time mothers’ perceptions of social support: Recommendations


Postnatal social support experiences in primiparous women in Korea: a phenomenological study

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Department of Nursing, Kyungnam University, Changwon, Korea

Purpose: Social support is essential for postpartum well-being, but little is known about the postnatal social support preferred by primiparous women. This study aimed to comprehensively understand and describe the meaning of postnatal social support experience in primiparous women.

Methods: The participants were seven primiparous women who were within 1 year after childbirth, recruited through purposive and snowball sampling from an online parenting community. The data were collected through in-depth interviews from November 14 to 28, 2022. Participants were interviewed face-to-face or via phone or online platform, according to their choice. Colaizzi’s phenomenological qualitative research method was applied to analyze the meaning of the participants’ experience.

Results: Five theme clusters and fourteen themes were identified from the data. The five theme clusters are as follows: (1) Shortcomings of the childbirth and postpartum care system I learned through my experience; (2) Government policies focusing on childbirth and child-rearing rather than postpartum recovery; (3) Driving force of postpartum recovery: Shared childbirth process; (4) Childcare on my own; and (5) Conflicted between being a stay-at-home mom and a working mom under inadequate maternity protection policies.

Conclusion: Despite postpartum support from the government that was perceived as inadequate, first-time mothers regained confidence and motivation for parenting with the help of family, peers, and social networks. First-time mothers need support from professionals and reliable online communities for postpartum recovery and parenting.

Keywords: Mothers; Postnatal care; Qualitative research; Social support
환될 수 있어 이에 대한 적절한 관리가 요구된다[2].


이에 본 연구에서는 초산모가 산후에 경험하는 다양한 사회적 지지 경험에 대해 탐구하고자 한다. 이를 위해 Colaizzi[14]의 현상학적 분석 방법을 사용하여 산후 사회적 지지 경험의 본질을 심층적으로 이해하려는 것이다. 구체적으로 초산모가 산후에 경험하는

Summary statement

- What is already known about this topic?
  Postpartum social support has been shown to play a significant role in helping primiparous women cope with parenting anxiety and adapt to their maternal role. However, research on how primiparous women perceive postpartum social support is scarce.

- What this paper adds
  First-time mothers voiced concerns regarding a postpartum care system that neglects maternal role education and governmental policies that prioritize childbirth over postpartum recovery. Support from husbands and family a socially encouraging environment towards pregnancy and childbirth crucial factors for postpartum recovery. They are also contemplating reentering the workforce under maternity protection policies that inadequately address their childcare challenges.

- Implications for practice, education, and/or policy
  National-level postpartum support should be more accessible, and supportive for the well-being and recovery of primiparous mothers, and postpartum helpers need to have expertise and experience in childcare and postpartum care.
사회적 지지의 본질적 구조를 탐색하는 것이다. 이에 따른 본 연구의 질문은 “초산모의 산후 사회적 지지 경험은 무엇인가?”이다.

**Methods**

**Ethics statement:** This study was approved by the Institutional Review Board of K University (IRB-1040460-A-2020-039). Informed consent was obtained from the participants.

연구 설계
본 연구는 초산모의 산후 사회적 지지 경험의 본질적 구조를 탐색하기 위해 Colaizzi [14]의 현상학적 방법을 적용한 질적연구이다. 본 연구는 COREQ (Consolidated Criteria for Reporting Qualitative Research) 가이드라인에 따라 기술하였다 [16].

연구 대상
본 연구 참여자는 첫 자녀를 출산한 산모로, 연구 주제에 대해 풍부한 경험을 가지고 있으며 적절한 정보를 제공하고 명확한 설명이 가능하다고 판단되는 대상으로 선정하였다. 구체적 선정기준은 (1) 만 20세 이상, (2) 출산 후 1년 이내, (3) 연구의 목적이 이해하고 연구 참여에 자발적으로 동의할 수 있는 자녀를 출산한 경산모는 제외하였다 [17].

<양원시 소재 한 인터넷 커뮤니티(사랑방)에 모집 공고문을 게시하여 연구 참여에 관심이 있는 경우 연구 책임자에게 유선으로 연락을 취하도록 하였다. 연구 책임자는 연구의 목적, 방법 등에 관해 설명하고 연구 참여에 자발적으로 동의할 경우 연구 참여자로 선정하였으며, 먼저 선정된 대상자에게 친구나 친척을 통해 다른 대상자를 소개받은 눈덩이 표집법 (snowball sampling)을 활용하여 이차적으로 대상자를 모집하였다. 본 연구 참여자 수는 더 이상 새로운 진술이 나타나지 않아 자료가 포화된 시점을 기준으로 총 7명을 최종 선정하였다.>

자료 수집
자료는 2022년 11월 14일부터 11월 28일까지 심층 면담을 통해 수집하였다. 참여자가 원하는 바에 따라 1:1 대면 혹은 비대면으로 면담을 실시하였고, 대면 심층 면담의 경우 연구목표에 유의함으로 설정하였다. 참여자에게 “산 후에 주변으로부터 어떠한 종류의 사회적 지지를 받으셨나요?”와 같이 포괄적인 내용을 포함한 개방형 질문을 먼저 시작하여, 부가적 질문으로는 “출산 이후 적응에 나가는 과정에서 어떠한 도움을 받으셨나요? 떠오르는 것들을 모두 이야기해 주시겠어요?”, “출산 이후 가족이나 주변 사람들로부터 어떠한 지지를 받으셨나요?”, “산후에 산모에게 가장 필요한 도움이 무엇이라고 생각하시나요?”, “하루하루를 보낼 때 힘든 점은 어떠한 것이 있었나요?” 등이었다. 1차 면담은 대상자별로 1회 실시하였고, 평균 50분, 최소 40분에서 최대 1시간 소요되었다. 4명의 대상자에게는 추가적인 자료가 필요하여 전화, 문자, 화상회의 등을 활용하여 1-2회의 추가 면담을 실시하였으며, 평균 15분 내외로 소요되었다. 참여자에게 동의를 얻어 면담 내용을 녹음하고, 면담 당시의 느낌을 메모하였다. 면담이 끝난 직후 연구 책임자는 녹음을 패일을 듣으면서 직접 필사하고, 필사 내용을 바탕으로 분석하였다.

자료 분석 방법
본 연구는 Colaizzi [14]가 제시한 현상학적 방법으로 분석하였다. 1단계는 녹음된 면담 내용을 반복해서 들으며 연구자가 참여자의 언어로 필사한 후, 반복적으로 필사본을 읽으면서 참여자의 산후 지지에 대한 전체적인 의미에 파악하고자 노력하였다. 2단계는 흐름에 따른 내용에서 산후 사회적 지지와 관련하여 주요 내용에 밑줄을 그으며 의미 있는 진술을 도출하였다. 3단계는 참여자에게 의미 있는 진술을 토대로 더 추상적이고 일반적인 형태로 주제를 분류하고 연구자의 언어로 표현하였다. 4단계는 도출된 의미 중 유사한 주제 묶음을 범주화하였다. 5단계는 주제 묶음이 나타나는 현상에 초점을 맞추어 포괄적으로 기술한 후, 핵심 범주와 본질적 구조를 도출하였다. 6단계는 참여자에게 분석내용을 제시하여 그들의 경험과 일치하는지 확인하고 질적연구 전문가와 본질적 구조의 타당성을 논의하였다. 질적분석 과정에서 목적적 포괄을 통해 연구 질문이나 연구 목적을 고려하여 연구 질문에 대해 미리 제시하고 연구 대상자의 조건에 부합하는 대상자 중 본인이 잘 응답할 수 있다고 표현하는 대상자를 새로운 대상으로 선정하였고, 수집된 자료를 분석하면서 연구의 목적이나 연구 질문에 충분히 대답할 수 있는 자료가 수집될 때까지 지속적으로 자료의 포화도를 점검하였다.

연구의 엄격성 확보 및 연구자 준비
 연구의 엄격성 확보
연구의 질을 검증하고 타당성과 신뢰성을 높이기 위해 Lincoln과 Guba [18]가 제시한 기준을 적용하였다. 사실적 가치를 확보하기 위해 녹음한 자료는 연구 책임자가 면담 24시간 이내에 듣고 필사하였으며, 녹음 자료를 2회 이상 반복해서 들으며 필사 자료와 비
교하는 과정을 거치고 필사 내용 중 의문이 있으면 참여자에게 전화나 카카오톡으로 문의 후 추가 면담(약 15분 소요)을 진행하였 다. 적용성을 확보하기 위해 산후 사회적 지지에 대한 경험을 충분히 표현할 수 있는 대상자로 선정하였다. 또한 연구 결과를 다른 참여자에게 보여주어 참여자의 경험을 서로 일치하는지 확인하였다. 일관성을 확보하기 위해 자료 분석 시 Colaizzi [14]가 제시한 분석 방법에 충실하였으며, 연구 질문을 지속적으로 바꾸며 자료 수집 및 자료 분석을 실시하고, 질적연구 경험이 있는 간호학 교수 2인에게 개념과 범주에 대한 피드백을 받았다. 중립성을 확보하기 위해 연구자들은 출산 후 엄마로서 가지고 있는 이해와 편견을 공유하고 편향된 시각을 최대한 배제하도록 논의하였고, 면담 시 연구자의 개입을 최소화하였다.

연구자 준비
본 연구에서 제1저자는 질적연구 특강이나 워크숍 등에 참여하여 질적연구 설계, 질적내용 분석, 현상학, 근거 이론 등 질적연구 방법론을 꾸준히 익혀왔다. 현상학적 연구 방법론을 이용한 질적연구를 학회지에 여러 편 게재한 경험이 있으며, 주산기 여성의 우울에 관한 연구를 10년간 수행해 오고 있다. 교신저자는 질적연구를 수행하는 학회에 소속되어 질적연구 방법론과 관련된 특강과 워크숍을 꾸준히 참여하여 왔으며, 현상학적 연구 방법을 활용하여 학위논문과 질적연구를 수행한 바 있다.

Results
연구 참여자는 총 7명이었으며 연령은 평균 37.4세였다. 분만 형태는 제왕절개가 4명(57.1%), 질식분만이 3명(42.9%)이었으며, 여아를 출산한 경우가 4명(57.1%)이었고, 출산 후 자녀의 건강 상태는 7명(100%) 모두 양호하였다. 출산 후 기간은 평균 4.6개월이었으며, 주요 양육자는 산모 본인이었다. 주관적 경제적 수준은 좋은 1명(14.3%), 나쁨 6명(85.7%)이며, 교육 형태는 육아휴직이 4명(57.1%), 근무 중이 1명(14.3%), 무직이 2명(28.6%)이었다(Table 1).

본 연구에서 제1저자는 질적연구 특강이나 워크숍 등에 참여하여 질적연구 설계, 질적내용 분석, 현상학, 근거 이론 등 질적연구 방법론을 꾸준히 익혀왔다. 현상학적 연구 방법론을 이용한 질적연구를 학회지에 여러 편 게재한 경험이 있으며, 주산기 여성의 우울에 관한 연구를 10년간 수행해 오고 있다. 교신저자는 질적연구를 수행하는 학회에 소속되어 질적연구 방법론과 관련된 특강과 워크숍을 꾸준히 참여하여 왔으며, 현상학적 연구 방법을 활용하여 학위논문과 질적연구를 수행한 바 있다.

주제 1. 모성의 역할 교육은 배제된 병원과 산후조리원
이 주제에서는 산후 의학적 처치에 집중하는 병원 입원 기간, 산모의 신체적 회복에만 초점을 맞추어진 산후조리원이 포함되었다. 산모들은 출산 후 병원에서 대부분 기본적인 자궁수축 관리, 상처 관리 등의 산후 신체적 처치만 받았으며, 바쁜 보이는 의료진에 대해 긍정적 이야기 보름에 남는 자문을 받긴 어려웠다. 또한 병원 퇴원 이후 입소한 산후조리원에서는 아기를 봐주고 모든 것을 돌봐주고 싶어 하지만 아이를 어떻게 먹이는지 등의 교육은 판촉 프로그램이나 브로슈어를 통해서 간접적으로 이루어졌다. “대학 병원이다 보니 사실 그렇게 막 감정적으로 케어를 받거나 이런 거는 사실 크게 없었어요. 진짜 정말 기본적인 케어만 받았고 이렇게 아이에 대해서 어떻게 하고 이런 거에 대해서는 따로 듣거나 지시받거나 그런 건 없었습니다.” (대상자 1)

“아이를 맡기고 내 몸은 쉴 수 있어서 산후 신체적 회복은 좀 된 것 같았는데, 실질적으로 조리원에서는 매 아침 지시하며, 그것도 사실 예를 들어고 실습은 해본 게 아니라 프로그램 같은 거 받으니까, 저는 사실 모르겠거든요. 결국 마음대로 하게 되고... 진짜 초산

Table 1. General characteristics of participants

<table>
<thead>
<tr>
<th>ID</th>
<th>Age (year)</th>
<th>Delivery method</th>
<th>Child’s sex</th>
<th>Child’s health</th>
<th>Main caregiver</th>
<th>Duration after childbirth (month)</th>
<th>Form of employment</th>
<th>Perceived family economic status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>32</td>
<td>C/S</td>
<td>Male twins</td>
<td>Good</td>
<td>Self</td>
<td>3</td>
<td>Unemployed</td>
<td>Poor</td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td>C/S</td>
<td>Female</td>
<td>Good</td>
<td>Self</td>
<td>4</td>
<td>Parental leave</td>
<td>Poor</td>
</tr>
<tr>
<td>3</td>
<td>34</td>
<td>C/S</td>
<td>Male</td>
<td>Good</td>
<td>Self</td>
<td>4</td>
<td>Unemployed</td>
<td>Poor</td>
</tr>
<tr>
<td>4</td>
<td>43</td>
<td>Vaginal</td>
<td>Female</td>
<td>Good</td>
<td>Self</td>
<td>5</td>
<td>Parental leave</td>
<td>Poor</td>
</tr>
<tr>
<td>5</td>
<td>39</td>
<td>Vaginal</td>
<td>Female</td>
<td>Good</td>
<td>Self</td>
<td>4</td>
<td>Parental leave</td>
<td>Poor</td>
</tr>
<tr>
<td>6</td>
<td>43</td>
<td>C/S</td>
<td>Male</td>
<td>Good</td>
<td>Self</td>
<td>6</td>
<td>On duty</td>
<td>Good</td>
</tr>
<tr>
<td>7</td>
<td>36</td>
<td>Vaginal</td>
<td>Female</td>
<td>Good</td>
<td>Self</td>
<td>6</td>
<td>Parental leave</td>
<td>Poor</td>
</tr>
</tbody>
</table>

C/S: Cesarean section.
<table>
<thead>
<tr>
<th>Theme clusters</th>
<th>Themes</th>
<th>Meaning units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shortcomings of the childbirth and postpartum care system I learned through my experience</td>
<td>Hospitals and postpartum care centers lack maternal role education</td>
<td>- Hospital stay focused on medical treatment during the postpartum period</td>
</tr>
<tr>
<td></td>
<td>- Postpartum care centers focus only on physical recovery of the mother</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Postpartum helpers are helpful despite varying levels of expertise</td>
<td>- I can rest and learn one thing at a time</td>
</tr>
<tr>
<td></td>
<td>- The expertise of postpartum helpers varies case by case</td>
<td></td>
</tr>
<tr>
<td>Government policies focusing on childbirth and child-rearing rather than postpartum recovery</td>
<td>All support is focused on baby</td>
<td>- Only the baby receives attention while the mother is neglected</td>
</tr>
<tr>
<td></td>
<td>- Government support is entirely used for the child during pregnancy and childbirth</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Appreciative yet finding the system lacking</td>
<td>- Various cash and in-kind supports were used effectively</td>
</tr>
<tr>
<td></td>
<td>- Support procedures are cumbersome and not streamlined</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Support limitations based on the mother’s location</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No one cares about the changes in my body after childbirth</td>
<td>- Busy with childcare, I don’t even have time to care for my own body</td>
</tr>
<tr>
<td></td>
<td>- Physical deterioration after childbirth</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Need for systems or education focused on physical recovery</td>
<td></td>
</tr>
<tr>
<td>Driving force of postpartum recovery: Shared childbirth process</td>
<td>Most reliable allies, my family of origin</td>
<td>- Relying entirely on my parents for childcare and housework</td>
</tr>
<tr>
<td></td>
<td>- Receiving various forms of help from family members who know my situation well</td>
<td></td>
</tr>
<tr>
<td></td>
<td>My supporter, my husband</td>
<td>- My husband’s empathetic words about the struggles of childcare provide the greatest comfort</td>
</tr>
<tr>
<td></td>
<td>- The degree of postpartum recovery varies depending on my husband’s dedication</td>
<td></td>
</tr>
<tr>
<td></td>
<td>My pregnancy and childbirth welcomed by society</td>
<td>- I feel like an adult in society</td>
</tr>
<tr>
<td></td>
<td>- Encouragement and support from people around me who celebrate with me</td>
<td></td>
</tr>
<tr>
<td>Childcare on my own</td>
<td>Thrown into childcare alone before fully recovering from childbirth</td>
<td>- First-time experience of overwhelming housework and the struggles of childcare</td>
</tr>
<tr>
<td></td>
<td>- Studying, but finding no answers to childcare</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Receiving childcare information and comfort from fellow parents who share similar experiences</td>
<td>- The biggest source of quickly accessible childcare information</td>
</tr>
<tr>
<td></td>
<td>- Only fellow parents understand the difficulties of childcare</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Always worried due to the lack of reliable information for the first child</td>
<td>- Lots of information, but hard to find reliable information</td>
</tr>
<tr>
<td></td>
<td>- Need for personalized help from childcare experts for my child</td>
<td></td>
</tr>
<tr>
<td>Conflicted between being a stay-at-home mom and a working mom under inadequate maternity protection policies</td>
<td>Drifting away from society after childbirth</td>
<td>- Feeling socially isolated as conversations with my husband and coworkers shift after childbirth</td>
</tr>
<tr>
<td></td>
<td>- Concerned about the possibility of returning to work while leaving my child behind</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feeling like I should only have one child if I want to return to work</td>
<td>- Naturally letting go of my own needs after childbirth</td>
</tr>
<tr>
<td></td>
<td>- One experience of self-sacrifice is enough for me</td>
<td></td>
</tr>
</tbody>
</table>
도우미의 전문성은 아쉬운 점이었다.
“집에서 적응해야 되는 시간이 더 많잖아요. 근데 거기 마련된 2주 정도 더 하면 제가 이제 몸도 조금 더 편하기 하고 적응도 조금 더 빨라 할 수 있겠죠. 어쨌든 제가 해야 하니까요.” (대상자 3)

조리원 동기들은 산후 도우미에게 많은 도움을 받았다고 하던데... 저는 별로였어요. 정부에서 일괄적으로 다수의 사람들에게 지원을 해서 그런지 도우미는 전문적 지식 없이 일하는 느낌이 좀 너무 좀 그렇더라고요. 그게 고민의 주요 원인 중 하나이기도 하죠. 정부에서 하는 거 보니 산후 조리 영역도 좀 더 넓혀야 하는 게 느껴지네요. (대상자 4)

주제 묶음 2. 산후 회복보다는 아기의 출생 및 양육 중심의 정부 제도
이 주제 묶음은 ‘모든 지원은 아기에게 맞춰짐’, ‘고맙지만 아쉬움이 남는 제도’가 포함되었다. 모든 국가적 지원은 기본적으로 출산 문제 해결을 위한 방면으로 출생에 초점이 맞추어 있으며, 아이와 첫 만남에서 시작하여 출산 전후에 다양한 서비스를 제공한다. 이에 반해, 산모의 산후 회복과는 멀리 있는 점이 느껴지기도 하였다. (대상자 1)

주제 2.1. 모든 지원은 아기에게 맞춰짐
이 주제에는 ‘아기만 대접받고 산모는 뒷전’, ‘정부 지원은 임신, 출산기간 동안 아이를 위해 모두 활용함’이 포함되었다. 참여자들은 정부 지원이 저출산 정책으로 출산 장려를 하기 위해 산모보다는 아기의 출생과 양육을 지원하는 방향으로 이루어졌음을 지적하고 있다. (대상자 1)

주제 2.2. 고맙지만 아쉬움이 남는 제도
이 주제에는 ‘유용하게 사용한 다양한 현금, 현물성 지원’, ‘버거 뿐만 아니라 임신과 출산 시 대상으로 지원되는 허가’, ‘산모 소재지 중심의 지원 제도’가 포함되었다. 참여자들은 정부가 지원하는 다양한 현금, 현물성 지원이 적극적이고, 초산모와 조리원 동기들은 산후 지원에 대한 만족도 높다고 응답하였다. (대상자 1)
“아이를 보면서 너무 예쁘다가도 거울을 보면 내 모습에 자존감이 떨어져요. 살도 많이 찌고, 머리도 빠지고, 체형도 변화되고, 서글프네요. 그래서 남편 스킨십도 싫어요. 그리고 잠 못 자면서 하루 종일 아기를 안고 있으니까 손목 발목 다 나가니까. 그게 제일 힘든 것 같아요. 지금도.” (대상자 6)

“운동 재활 같은 게 있잖아요. 지역 보건소나 체육센터 같은 곳이랑 연계해서 가벼운 산후운동이 왜냐하면 예뻐요. 그래서 잠 못 자면서 하루 종일 아기를 안고 있으니까 손목 발목 다 나가니까. 그게 제일 힘든 부분이에요. 또, 손목, 무릎 관절이 너무 아파요. 몸이 제일 힘든 것 같아요. 지금도.” (대상자 6)

주제 묶음 3. 산후 회복의 원동력: 함께 하는 출산
이 주제 묶음은 ‘가장 든든한 우군, 친정 식구들’, ‘나의 편, 남편’, ‘사회적으로 환영받는 나의 임신과 출산’ 주제가 포함되었다. 참여자들은 산후 회복에 있어 가장 중요한 원동력이 가족으로부터 시작되었으며, 그 중 친정 식구들과 남편이 가장 핵심이라고 했다. 또한 나의 임신과 출산을 기뻐해 주고, 지지해 주는 사회적인 분위기가 경험하며 산후 회복을 해 나갔다.

주택 묶음 3.1. 가장 든든한 우군, 친정 식구들
이 주제에는 ‘친정 부모님에게 육아와 가사를 전적으로 의지함’, ‘내 상황을 잘 아는 친정 식구들로부터 받는 크고 작은 도움’이 포함되었다. 참여자들은 산후 회복기간 동안 친정 부모님에게 육아와 가사를 전적으로 의지하고, 친정 식구들로부터 받는 크고 작은 도움을 통해서 점점 회복해갔다. 친정 부모님의 도움을 받으며 비로소 부모의 역할에 대해서도 생각해보다고, 부모의 마음을 다시 해서 보기도 했다.

“이제 처음 낳은 후 친정 엄마가 오셔서 거의 한 달 넘게 몸조리를 해준 바인지 친정 엄마가 전적으로 아기를 봐주기 시작해 주셔서 그때 참 고마웠어. 그때 아기 낳고 몸이 많이 힘들었거든요.” (대상자 7)

“항상 고마운데, 근데 진짜 남편이 진짜 좀 잘 해줘요. 집안일도 치명적 이런 거나 이런 거나 막혀서 당연한 거고, 집안일도 잘해주고, 귀근하고 오면 보통 10시, 11시까지 아기 봐주고 해서 제가 그렇게 전까지 크게 힘든 것 없어요. 남편 덕분에 많이 회복된 것 같아요.” (대상자 5)

주택 묶음 3.2. 사회적으로 환영받는 나는 임신과 출산
이 주제에는 ‘사회에서 어른으로 인정받는 것 같은 내 모습’, ‘축하해주는 주변 사람들의 격려와 지지’가 포함되었다. 참여자들은 임신과 출산을 통해서 새로운 가족 구성원의 생기는 기쁨도 컸지만 비로소 사회적으로 책임과 의무를 다하며 어른이 된 것이라고 표현하였으며, 이것을 주변 사람들의 격려와 지지로 확인하였다.

“아이를 낳고 나는 너무 예쁘고 기뻤어요. 세상에서 가장 소중한 존재가요. 아이 낳기 전에는 몰랐던 새로운 세상이에요. 아이를 낳음으로 어른으로 인정받는 느낌이네, 내가 이 사회에서 책임과 의무를 다한 것 같아요.” (대상자 2)

“임신했을 때에는 걱정거리던 여린_HEREيخ_00000000.png 이 다행히도 많이 어르신들이 귀한 아이라고 축하하라고 해주고, 어디를 가도 그랬던 것 같아요. 항상 보는 사람마다 찬사를 해주고, 마치 내가 이제 사회에서 어른이 된 느낌도 들었고. 난 복잡했다. 남편 덕분에 많이 회복된 것 같아요.” (대상자 1)

주택 묶음 4. 육아 홀로서기
이 주제 묶음은 ‘출산 후 완전한 회복 후 홀로 육아 현장에 내딛기’, ‘동병상련 육아 동지로부터 양육정보와 위로’, ‘신뢰할 수 있는 정보가 없어서 어려웠던 첫 아이 육아’ 주제가 포함되었다. 첫 산모는 완전하게 산후 회복이 되지 않으면 육아의 실전 현장에 투입되고, 아이와 관련된 다양한 경험을 하면서 어려움에 처해있었다. 육아의 정답을 찾기 위해서 다양한 정보를 찾아보기도 하고 조언을 구해보기도 했다. 첫 아이 육아는 항상 고민스럽고 어려웠는데, 이 때 같은 처지의 엄마들의 위로는 큰 힘이 되었다고 했다.
주제 4.1. 출산 후 완전한 회복 전 홀로 육아 현장에 내던져짐

이 주제에는 '처음 경험하는 집안일 폭탄과 육아 전쟁', '공부를 해보아도 답 없는 육아'가 포함되었다. 참여자들은 산후 도우미 지원 기간이 끝난 후 본격적으로 홀로 육아와 생활 속으로 진입했다. 참여자들은 아이가 생기면서 늘어난 집안일과 육아의 쳇바퀴 속에서 모성으로 거듭나고 있으며, 매일 육아를 공부하며 아이를 돌보며 이에 맞지 못할 고민이 되었다.

"아이가 50일 경과 후 되면 제가 완전히 회복되지 않은 상태에서 그것도 보고, 집안일도 하기 시작해요. 그러니 아이가 깨어있으면 집안일이 안 되니까 애를 재우고 틈나는 대로 밀린 집안일을 해야 해요. 집안일은 항상 밀려 있는 상태죠. 남편이 많이 도와주는 편인데도 일단 애를 재우고 나서야 집안일을 시작할 수 있어요. 아이 옷 세탁이며 젖병 소독 등 할 일이 산더미는데, 애도 봐야 하고, 밥 먹고 세수할 시간도 없이 전쟁처럼 하루하루 살고 있습니가." (대상자 2)

"먼저 육아를 경험했던 언니들과나 가족들, 아니면 이제 유튜브 같은 것을 보고 공부하며 정보를 얻고는 있지만 고민이 되네요. (제 나름대로 열심히 공부하면서 아이를 키우고 있는데) 정답이 없는 것 같습니다." (대상자 1)

주제 4.2. 동병상련 육아 동지로부터 받는 양육 정보와 위로

이 주제에는 '육아 정보를 빠르게 얻을 수 있는 가장 큰 정보원', '육아 동지만 이해하는 육아 고충'이 포함되었다. 참여자들은 아이를 양육할 때 큰 도움이 되었던 것은 비슷한 또래의 아이를 양육하는 육아 동지였다. 나 홀로 고민하던 모든 정보를 오픈 채팅방이나 인터넷 카페를 통해 습득했고, 육아 고충도 같이 공유하며 위로받았다. 같은 시기에 또래의 아이를 키우려는 엄마들로 하여금 강력한 연대감을 느껴주었다.

"맘카페에 주제어로 검색해서 많이 보거나, 아니면 그냥 인터넷 검색창에 검색해 가지고 블로그 같은 것도 참고하고요. 지금 (맘카페에서 만난 멋진 시기의 아이를 양육하는 엄마들의) 오픈 단톡방 있잖아요. (여기 모인 엄마들의 아이들이 통해 나도 같이 생기는 또래의 아이들에 대해서도 같이 공유하며 위로받고, 그런 곳에 대해 알고 싶으니, 주변에서 만난 이들이 너무 오래해서 모르고, 그런 영상은 찾아도 잘 안 나와요. 그래서 육아 전문가가 운영하는 우리 아이 연령대에 맞는 온라인 소통 창구 같은 게 있어서 좋을 것 같아요." (대상자 4)

주제 4.3. 신뢰할 수 있는 정보가 없어 항상 고민인 첫 아이 육아

이 주제에는 '정보는 많으나 신뢰할 수 있는 정보는 찾기 어렵다', '내 아이에게 맞는 맞춤형 육아 전문가의 도움이 필요함'이 포함되었다. 참여자들에게 첫 아이 육아는 어렵고 힘들었고, 다양한 정보들 속에서 신뢰할 수 있는 정보는 찾기 어려웠으며, 전문가마다 말하는 내용이 너무 많아 고민스러웠다고 하였다. 또한 참여자들은 내 아이에게 맞는 발달 단계에 따라 맞춤형 육아 전문가의 도움이 필요했으며, 퇴근 상담할 수 있는 전문가가 있으면 좋겠다고 표현했다.

"육아 전문가라고 나온다는 분들이 너무 의견이 다르고, 분류도 훨씬가치를 높이, 너무 1.000 mL 넘기지 마라... 누구의 말이 맞는지 모르겠고, 충분히 신뢰할 수 있는 전문가로부터 교육받을 수 있는 통로가 있으면 좋겠어요." (대상자 5)

"첫 아이가 정말 아무 것도 몰랐어요. 진짜 그 전에 아이를 보고 확신할 수 없었고, 그정말 모르는 것들에 대해 생각했던 기간이 있었어요. 그런 끝에 종료된 커뮤니티를 떠나 아이를 키우면서 이렇게 짜매고 나타난 것 같아요. 저는 아이가 생생활에 너무 많아야 100일이 됐을 때 200일이 됐을 때 300일이 됐을 때, 점점 아이가 빠르게 변해가고, 그런 것들에 대해 알고 싶어요. 아이들로는 메시지를 보내도 모르고, 그런 로그인도 안해도 되니 로그인을 못해도 이상한 거 같아요. 그래서 아이를 키우면서 꼭 그런 영상은 찾아도 잘 안 나와요. 그래서 육아 전문가가 운영하는 우리 아이 연령대에 맞는 온라인 소통 창구 같은 게 있어도 좋을 것 같아요." (대상자 4)

주제 묶음 5. 양육 상황을 불완전하게 커버하는 모성보호 제도

이 주제 묶음은 '출산 후 사회에서 점점 멀어지는 본인의 모습을 인지하게 되는 본인의 모습을 인지', '사회로 복귀하려면 아이는 하나만 낳아야 할 것 같은 제주제'가 포함되었다. 참여자들은 출산 후 아이를 양육하는 사이에 사회에서 멀어지는 모습을 인지하게 되었다. 육아휴직이나 출산휴가, 유연근무제 같은 모성보호 제도들이 많이 생겼지만, 아이 양육 중에 생기는 문제는 점점 해결할 수 없기에 전연주부와 워킹맘 중 압박감을 느끼게 해주는 상황이 나타나 갈등하게 된다. 참여자들은 아이를 더 낳아서 키우고 싶지만 다양한 상황 속에서 아이는 하나만으로 충분하다고 생각했다.

주제 5.1. 출산 후 사회에서 점점 멀어지는 본인의 모습을 인지

이 주제에는 '출산 후 남편, 회사 동료와 이야기의 주제가 달라짐', '아이를 두고 복귀할 수 있을까 고민함'으로 나타났다. 참여자들은 출산 후 아이를 양육하는 사이에 남편, 회사 동료들과 이야기의 주제가 달라졌음을 인지하고 사회에서 동떨어진 것 같은 본인의 모습을 발견했다. 그리고 육아를 하면서 자연스럽게 아이를 두고 작업으로 복귀할 수 있음을 고민하게 되었다. 모성보호 제도가 있지만 실제로 활용할 수 없는 부분은 제한적이며, 양육 보조자도 없는 경우 작장 복귀가 고민하게 되었다.

"남편이나 직장 동료들이랑 한 번에 아이 이야기를 하면 긴장하고, 아이 이야기를 하면 엄마들끼리 이야기하려고 하는데, 그런 건 본인에 대해 그런 건 본인에 대해. 육아 휴가가 긴장하니, 이런 식으로 하게 되는 거 같아요. 저는 아이와 관련된 얘기만 하고 있어요. 약간 사회에
서 멀어지는 느낌이 듭니다.” (대상자 2)

“제가 지금 직장 들어간 것도 지금 1년밖에 안 됐거든요. 지난가지에 이제 혹시나 또 육아휴직을 하게 되니 또 어떨지에 또 생각을 해야 되나 싶어요. 아이를 보면 내려놔야 되나 싶기도 하고, 지금 직장과 육아 두 마리 토끼를 잡을 수 있을까 하는 그런 노파심이 있네요.” (참여자 5)

“막상 제가 그 현실에 닥치니까 정말 대한민국에서 출산한 여자들이 진짜 선택지가 다양하지가 않구나 라는 생각을 많이 했거든. 그래서 이제 우리나라는 출산률이 낮은 이유가 있겠구나 라고 생각했고, 저는 육아하면서 전업주부 하면서 개인 커리어 포기하고 남편이 외벌이로 벌어주는 돈으로 이렇게 아등바등 사는 것과 애들 맡기면서 회사 다니는 거 둘 중 하나 어쩔 수 없이 선택할 수밖에 없는 대한민국 현실에 남편과 많이 싸우기도 했고 내적으로 갈등이 심하게 생겼어요.” (대상자 1)

주제 5.2. 사회로 복귀하려면 아이는 하나만 낳아야 할 것 같음
이 주제에는 ‘출산 후 자연스럽게 나의 것은 내려놓음’, ‘나를 희생해야 하는 경험은 한 번으로 족함’으로 나타났다. 참여자들은 임신과 출산, 육아 과정을 경험하고 사랑스러운 아이를 보며 자연스럽게 나의 것을 내려놓을 수밖에 없는 현실을 인지했다. 동시에 나의 커리어를 위해 나를 희생하는 경험은 한 번으로 만족한다고 표현했다.

“원래 옷 가게를 하면서 수입이 괜찮았어요. 그런데 아이를 낳고 나서 이것저것 따지니까, 결국 제가 집에서 아이를 봐야하는 상황이 되었어요. 물론 아이가 예쁘긴 하지만, 자연스럽게 양가 부모님들도 당연하게 남편의 직장이 중요하다고 하시니, 내가 이때까지 쌓아왔던 것은 자연스럽게 내려놓게 되었어요.” (대상자 5)

“원래는 남편과 둘이서만 살기로 했는데, 아이 하나는 있어야 하지 않나 라고 생각해서 남편과 상의하고 계획해서 출산을 했어요. 그런데 아이를 낳고 나니 예쁘긴 하지만, 제가 어느 정도 연차가 되서 직장생활 하면서 커리어를 쌓아서 경제적으로도 여유가 있었습니다. 둘이서 취미활동도 같이하고 했었거든요. 지금도 직장 복귀가 언제 될지 모르는데... 주변에서 나이 한 살이라도 어릴 때 하나 더 낳으라고 하시지만, 직장 복귀를 꿈꿨을 때 출산의 경험은 이번 번으로 충분합니다.” (대상자 2)

Discussion
본 연구는 초산모의 산후 사회적 지지 경험의 본질을 알아봄으로써 출산 후 여성들이 필요로 하는 지지에 대한 이해와 요구를 밝혀내기 위해 수행하였다. 본 연구 결과 초산모의 산후 사회적 지지 경험은 5개의 주제 묶음과 13개의 주제로 도출되었으므로, 이를 중심으로 논의하고자 한다.


을 향상하기 위해서는 정보 제공 및 신청 프로세스 간소화에 주력해야 하며, 산모의 실질적 요구나 산후가정의 사각지대가 발생하지 않도록 정보를 개선할 필요가 있다. 

초산모들의 산후지원에 대한 좋은 인식은 출산 후 스트레스를 감소시키고, 산후 건강과 웰빙을 향상하는 데 도움이 된다[4]. 이는 초산모들의 산후지원에 대해 정확하고 충분한 정보를 제공할 필요가 있다[5]. 또한, 정책 개선을 통해 산모의 실질적 요구를 반영하여 지원 정책의 사각지대가 발생하지 않도록 정책을 개선할 필요가 있다. 


센터의 안과 및 응급실에서 일어난 등의 상황이나, 피로, 스트레스 등을 줄이고, 신체적 건강 유지에 도움이 되는 방법이 필요하다. 이러한 안과 및 응급실에서 일어날 경우, 추가적인 치료나 관리가 필요할 수 있으며, 이에 대한 대비가 필요하다.

본 연구에서는 초산모의 산후 사회적 지지에 대한 경험을 탐색한 국내 최초의 연구로, 고령의 초산모가 증가한 현 시점에서 초산모의 산후 요구를 탐색하고, 향후 출산과 육아에 대한 지원을 강화할 수 있는 제도가 조성되어야 할 것이다.

본 연구는 연령이나 분만 방식을 제한하지 않았기 때문에 연구 참여자로부터 출산 후 사회적 지지에 대한 공통적인 경험을 이끌어 내기 힘든 부분이 있다. 그러나 본 연구는 초산모의 관점에서 산후 사회적 지지에 대한 경험을 탐색한 결과, 고령의 초산모가 중요한 인구에서 의존하는 점을 확인하였다. 출산은 초산모의 산후 지지에 대한 요구를 탐색하고, 향후 출산 서비스와 정책의 방향을 확정화하는 데 유용한 정보가 될 것이다.

향후 초산모의 산후 사회적 지지에 대한 요구가 국가의 산후지원 정책 수립과 실행에 있어 중요한 영향을 미칠 것으로 보인다. 따라서 국가, 해당 지역, 산모 및 가족에게는 출산 후의 산후 지원을 위한 정책이 필요하다. 본 연구결과를 바탕으로 초기의 산후 지원을 한 단계 더 나아가야 할 것이다.


Parenting experiences of marriage immigrant women in South Korea during the COVID-19 pandemic: a descriptive phenomenological study

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Purpose: This study aimed to investigate the experiential meaning of child-rearing for marriage immigrant women in Korea in the context of the coronavirus disease 2019 (COVID-19) pandemic.

Methods: Using the hermeneutic descriptive phenomenology framework developed by Colaizzi, 10 marriage immigrant women rearing preschool and school-age children were invited through purposeful and snowball sampling from two multicultural support centers in Korea. The participants were rearing one or two children, and their original nationalities were Vietnamese, Japanese, Cambodian, and Chinese. Individual in-depth, face-to-face, semi-structured interviews were conducted from September 1 to November 30, 2021. We extracted significant statements from the transcripts, transformed these into abstract formulations, and organized them into theme clusters and themes to authentically capture the essence of the participants’ subjective experiences.

Results: Four theme clusters with 14 themes were derived. The four theme clusters identified were “navigating child healthcare alone,” “guilt for not providing a social experience,” “worry about media-dependent parenting,” and “feelings of incompleteness and exclusion.” This study explored the perspectives of mothers raising children as marriage migrant women who experienced physical and emotional health crises due to the COVID-19 pandemic.

Conclusion: The findings underscore that marriage immigrant women encountered heightened challenges in managing their children’s health and well-being during the COVID-19 pandemic due to linguistic and cultural barriers limiting access to healthcare and information. Additionally, these women experienced considerable emotional stress from perceived inadequacies in providing a holistic social and developmental environment for their children under extensive social restrictions.

Keywords: COVID-19; Child rearing; Emigrants and immigrants; Qualitative research; Women

Introduction

Coronavirus disease 2019 (COVID-19), which emerged in 2019, has spread rapidly around the world. In March 2020, the World Health Organization declared it to be a global pandemic, and countries restricted movement [1]. Governments implemented social distancing, reducing economic activity, education, and care. The global economic downturn caused by the pandemic, unemployment, the decrease in educational opportunities, and deepening inequality between groups have left lasting scars on the economy and society as a whole [2]. More recently, breakthrough infections caused by mutated variants of the virus made...
daily life come to a halt again. People experienced feelings of helplessness, disconnection, fear, anxiety, stress, and boredom due to social isolation [3].

The number of migrants has dropped by 4.7% since the lockdown in South Korea. The decline in international migration has had an impact on changing perceptions of migrants. In South Korea, international marriage has become increasingly common since the 2000s under circumstances such as late marriage, low fertility, and an aging population among rural men. The number of marriage immigrants increased more than six-fold from 25,182 in 2001 to 169,633 in 2022 [4]. However, South Korean society is not socioculturally prepared to harmoniously integrate different races. The government's multiculturalism policy is predominantly assimilationist, which is an obstacle to forming a sustainable multicultural society [5]. Marriage migrant women who immigrated to Korea for the purpose of marriage accounted for more than 80% of all immigrant women in 2018 [6]. The increase in the number of married immigrant women has led to an increase in the number of multicultural children, and this change is expected to affect the demographic structure of Korean society in the future [7]. The average age of multicultural children is 8.3 years old; 39.0% of these children are under 6 years old and 38.2% are aged 6 to 12 years—corresponding to elementary-school age—in 2018. The age distribution of multicultural children is concentrated in the preschool and school-age groups [6].

Marriage immigrant women with children experience many difficulties in raising and educating children due to insufficient Korean language knowledge and a low understanding of the Korean education system [8]. While the majority of Korean women are supported by their parental families, the mothers of married immigrant women are often unaware of the circumstances in Korea. The largest difficulty these mothers face in raising children is the lack of a network to support them when they are sick or busy [6]. A study on multicultural families abroad shows that the degree of acculturation of parents affects the family system and roles. Parents’ expectations for their children affect their positive development and social adaptation [9].

It is difficult for multicultural mothers who have difficulty understanding the Korean language to easily find or utilize the necessary information regarding COVID-19. The COVID-19 pandemic has exacerbated the difficulties faced by multicultural families that lack social support resources [10]. However, few studies have explored the parenting experiences of married migrant women in South Korea during the COVID-19 pandemic. The Korean Multicultural Families Survey showed that 24.4% of marriage migrant women had no intention of attending social gatherings in the near future, and there was no one with whom they could discuss their children’s education or who could take care of their children [4]. As the spread of COVID-19 and social distancing reduced interaction and communication with migrants, social prejudice and exclusion of migrants increased. Migrant women’s daily lives, labor, income, health, healthcare access, childcare, education, social relationships, and experiences of xenophobia have been severely affected during the pandemic [11]. In particular, the closure or reduced operation of elementary schools, daycare centers, kindergartens, care classes, and af-

Summary statement

- **What is already known about this topic?**
  Marriage immigrant women with children experience many difficulties in raising and educating children due to insufficient language knowledge and cultural maladaptation. The largest difficulty these mothers face in raising children is the absence of a network to support them.

- **What this paper adds**
  This study provides deep insights into the difficulties of parenting preschool and school-age children during the COVID-19 pandemic, as experienced by marriage immigrant women living in Korea. Navigating child healthcare alone, guilt for not providing a social experience, worry about media-dependent parenting, and feelings of incompleteness and exclusion were derived as theme clusters.

- **Implications for practice, education, and/or policy**
  To effectively support marriage immigrant women with children, there is a critical need for improved mental health services that offer multilingual counseling, targeted healthcare policies sensitive to cultural differences, and advocacy for inclusive policies that combat discrimination and ensure equitable access to vital health information and services.
fter-school programs due to COVID-19 has left a significant gap in care services. This has placed an additional burden of care on families, particularly affecting those with elementary and preschool-aged children. The difficulties faced by multicultural families that lack social support resources have been exacerbated [10]. Therefore, it is necessary to study the actual situation of marriage immigrant women who experience difficulties in raising preschool children in multicultural families.

Phenomenological research reveals the meaning of lived experiences by exploring the participants’ descriptions [12]. The research method of Colaizzi [13] enables researchers to grasp the meaning of humanly experienced phenomena through living experiences. Although a quantitative study on the parenting of multicultural families in Korea has been conducted [14], it predated the COVID-19 pandemic, and there is a lack of research on the parenting experiences of married immigrant women related to the pandemic situation. A recent study found that migrant women in Canada experienced fear, anxiety, stress, and a substantial burden of parenting [15]. Therefore, it can be seen that marriage immigrant women face serious psychological difficulties in the context of the COVID-19 pandemic. This study was conducted with the goal of deeply understanding the experiences of marriage immigrant women living in Korea and understanding the essential structure of those experiences [13].

The purpose of this study was to describe the meaning of experiences by understanding the perceptions and essence of child-rearing experienced in the life of marriage immigrant women in Korea in the context of the COVID-19 pandemic. The research question was “What is the meaning of the parenting experiences of marriage immigrant women with preschool and school-age children in the context of the COVID-19 pandemic in Korea?”

**Methods**

**Design**

This qualitative study applied the descriptive phenomenology research method of Colaizzi [13] to explore the essence of marriage immigrant women’s experience of raising children. This study was prepared according to the COREQ (Consolidated Criteria for Reporting Qualitative Studies) guidelines.

**Participants**

Participants were marriage migrant women who could express their feelings and emotions in Korean. The inclusion criteria were (1) having a nationality other than Korean before marriage, and (2) having one or more preschool or school-age children after marriage with a Korean. The exclusion criteria were (1) women who moved to Korea after the outbreak of COVID-19, (2) women who lived abroad during the COVID-19 pandemic, (3) women who could not communicate in Korean, and (4) women who did not agree to participate in the study. The recruitment method began with a participant who was known through an acquaintance of the researchers. Then, snowball sampling was used, in which the first participant introduced to other participants. In total, 10 participants listened to the purpose and intention of the study and decided to participate in the study. Sampling was stopped when theoretical saturation was reached, meaning that the information provided by new participants became largely repetitive, and no new themes, patterns, or categories emerged from the data. Saturation was achieved when subsequent data collection efforts yielded no new thematic information, indicating that the dataset was comprehensive with respect to the research questions being investigated.

**Data collection procedure**

Data were collected through in-depth face-to-face, semi-structured interviews with researchers from September 1, 2021 to November 30, 2021. Before setting the interview schedule, the purpose and method of the study were explained through individual phone calls, the interview schedule was planned, consent was obtained from the participants who agreed to participate in the study, and permission for recording was provided. In-depth face-to-face interviews were conducted at the desired time and place so that participants could feel comfortable. Each interview took about 1 or 2 hours, and interviews were conducted once or twice per participant. Participants were encouraged to think through the interview questions, and the researchers listened to them carefully. Two researchers transcribed the material recorded via mobile phone using handwriting and Naver’s automatic CLOVA program.

**Interview questions**

The interviewer was a researcher, and the semi-structured questions for the interview were composed by the researchers in a pre-meeting and recorded in advance in the field notes. The grand tour question was “What experiences did you have with raising children during the pandemic?” This question was adjust-
ed to use easy-to-understand language for participants. Probing questions included, “Please tell us about your experiences or feelings physically and emotionally,” “How did your children stop going to school or daycare due to COVID-19?”, “As children spent more time at home, how did your relationship with your child change?”, and “What experiences have you had with children receiving online education during COVID-19?” were used.

Data analysis
Under Colaizzi’s framework for qualitative analysis [13] to return to the phenomenon itself, vividly described the subjective experiences that the participants experienced in the real world as they were revealed, the seven-step procedure of Morrow et al. [16] was used. (1) We read the participants’ statements repeatedly to familiarize ourselves with the data. (2) In order to identify significant statements, all sentences directly related to the phenomenon of parenting experience were found. (3) To create constructed meanings, we strove to avoid bias and carefully considered meaningful statements. (4) Among the meanings constructed for clustering themes, common contents were derived as themes. (5) We attempted to grasp the whole with a comprehensive description. (6) Themes were found using concise and meaning-dense language so that the essence of the phenomenon emerged. (7) Finally, two participants were asked to confirm whether the themes contained their experiences. The participant validation process was conducted to obtain a phenomenological perspective from natural attitudes. In addition, to obtain expert confirmation of the validity of the essential structure, opinions were elicited from three professors of women’s health nursing.

The three criteria of Cresswell [17] were applied to ensure research reliability. (1) The research procedures and questions were developed and conducted as a protocol. (2) Throughout the writing process, we referred to the transcripts of the interview and field notes. (3) We independently performed coding and discussed the consistency of coding in more than five meetings. Our team had an average of more than 10 years of experience in qualitative research, participation in domestic and international qualitative research meetings, review and editing of qualitative research, interview experience, and experience as educators. During the interview period spanning 5 months, we continued to interact and focused on discussing the direction of the research.

Trustworthiness
Through an effort to return to the phenomenon itself through the process of bracketing the researchers’ understanding of the topic, we were able to look into the participants’ experiences without prejudice. Our prior understanding was that marriage migrant women would experience difficulties in raising children due to the lack of a child-rearing support system during the COVID-19 pandemic. These preconceived notions were recognized and a reflective thinking process was performed to avoid reflecting or inducing them in the interview. In order to respect the participants’ unique world of life, we respected and listened to the participants’ emotions and perceptions. We read the field notes repeatedly to understand the meaning of the participants’ experiences and shared and analyzed data by coding meaningful statements and constructing meanings, sub-themes, and themes using the Excel program. We also discussed the corresponding and differing issues in coding via face-to-face meetings. Discussion of inconsistencies continued until consistency was achieved with the provision of new meaning. If there was a difference between researchers, cyclical analysis was performed, in which the analyzed content was shown to the participants, who provided input that corrected the meaning.

Results

Characteristics of participants
The 10 participants ranged in age from 29 to 39 years, and their average age was 33.7 years. The average age of their children was 9.3 years (range, 4–15 years). All were married and had resided in Korea for an average of 10.5 years. Their nationalities before marriage were Vietnamese (five participants), Japanese (two participants), Cambodian (two participants), and Chinese (one participant). Nine participants obtained Korean citizenship after marriage and one was currently divorced. By occupation, five participants were office workers, three were housewives, and two were language support workers at a multicultural center. Only three participants had people to support them in child-rearing and half had completed high school (Table 1).

Major theme clusters
Four theme clusters with 14 themes were derived. The theme clusters were “navigating child healthcare alone,” “guilt for not providing a social experience,” “worry about media-dependent parenting,” and “feelings of incompleteness and exclusion” (Table 2).

Navigating child healthcare alone
The participants noted that reduced outdoor activities led to heightened health risk factors, which were further exacerbated by
challenges in dental care, declining vision, and difficulties in understanding medical prescriptions. This situation presented a complex array of health disparities and navigational burdens.

1) Frustration with health risk
Participants expressed frustration over increased health risks as their children faced weight issues and dietary challenges due to restricted outdoor activities during the pandemic.

“Frankly, my son (12 years old) started gaining weight starting 6 months ago. That time he stayed at home. It’s been 6 months or more since online classes. He couldn’t go outside, so he was stressed out. Just... just at home. He ate a lot of instant food.” (Participant 2)

“My baby (7 years old) stays at home every day and doesn’t get sunlight. She needs to do a lot of outdoor activities. So, the baby did not eat well. Her weight gain was slow.” (Participant 4)

“He (11 years old) just got worse this year because of the coronavirus. He has to go around to exercise and get some air outside. He was only at home, so he gained weight and didn’t get enough vitamins. His glycated hemoglobin also became 7.8 and 8 points from 6.4 before. Ugh, I’m scared. Now (sigh)... It’s hard. Diabetes management also became difficult.” (Participant 5).

2) Added burden of dental care
Added burdens in dental care due to COVID-19 restrictions at schools, which prohibited regular teeth brushing and use of glasses, led to deteriorating dental health and the emergence of issues such as tooth decay.

“My baby (7 years old) stays at home every day and doesn’t get sunlight. She needs to do a lot of outdoor activities. So, the baby did not eat well. Her weight gain was slow.” (Participant 4)

“He (11 years old) just got worse this year because of the coronavirus. He has to go around to exercise and get some air outside. He was only at home, so he gained weight and didn’t get enough vitamins. His glycated hemoglobin also became 7.8 and 8 points from 6.4 before. Ugh, I’m scared. Now (sigh)... It’s hard. Diabetes management also became difficult.” (Participant 5).
cause of the coronavirus, he didn’t even brush his teeth and didn’t wipe his mouth all day.” (Participant 5)

“She (12 years old) can’t even use a gargle at school. There’s something a little bit rotten with her teeth now. Because she can’t brush her teeth at school. The habit of brushing teeth was forbidden.” (Participant 6)

3) Poor vision due to isolation
Participants reported that increased screen time due to isolation during the pandemic led to a deterioration in their children’s vision.

“I put the TV on or give him (7 years old) a cell phone a lot. I went to the eye clinic and heard from the doctor that my baby’s eyes got a little worse.” (Participant 4)

“Cell phone, cell phone. He (8 years old) has only been playing with the cell phone for over a year. Even if he studies, he is more interested in the cell phone. He doesn’t even want to go out to eat. Looking at the cell phone every day made his (11 years old) eyes hurt. When he goes to school now, he wears glasses. He can’t see the text on the blackboard. Kids have bad eyesight because of cell phones.” (Participant 5)

“I’m worried about this because of cell phone addiction. We didn’t talk to each other while looking at the smartphone and her (12 years old) eyesight got really bad within a year. She had to wear glasses.” (Participant 6).

4) Coping with the medical situation alone
A significant challenge was managing their child(ren)’s medical conditions alone, especially under the constraints of the pandemic.

“My baby (8 years old) has diabetes and is not feeling well. If he gets the coronavirus, it will be really bad for him. I have a big job of injecting insulin, the doctor gives me everything. I am not Korean, and I don’t have much education and didn’t go to university. It is so hard because I am the only one who gives him his prescription. Really. These days, when the kids bother me just a little, I lose my temper and get angry like a lion.” (Participant 5)

Guilt for not providing a social experience
The limited opportunities to make friends and create childhood memories were noted to have significantly shaped the subjective sense of growing up in the pandemic, casting a shadow on the natural progression of social and emotional development.

1) Pity for the child’s loneliness
Participants expressed a common feeling of sadness for children’s loneliness and concerns about the long-term impacts of these restrictions. Children’s inability to play freely, participate in regular school activities, and recognize friends during online classes heightened their sense of isolation and fear.

“Kids want to get together and play together. There is such a thing. I still couldn’t let him (12 years old) go. The kids were probably a little upset. But I explained the situation and how dangerous it was. He wants to play with his friends.” (Participant 2)

“My kid (7 years old) stayed at home for too long and was unfamiliar with his friends, so now he can’t get along with them again for too long. He is getting too scared. I think he has to meet a lot of friends again, talk and play. Isn’t it a little hard? I would like it if he could take off the mask and meet up with his friends of the same age and listen to classes and play together.” (Participant 4)

“He (13 years old) can’t see his friends even though school started. When he attends online classes in the morning, the teacher calls the names of the children attending. I ask my kid to learn his friends’ faces. Sociability, making friends is important. Now, even though he can meet friends, the kids don’t like to meet up anymore.” (Participant 6).

2) Dissatisfaction about diminished opportunities to create childhood memories
The sentiment among participants reflected a profound dissatisfaction with the lost opportunities for children to make cherished memories due to the pandemic.

“He is now in grade 6, he can’t have either a graduation ceremony or a field trip due to the coronavirus. So many memories are gone, he didn’t even go out to play with the other kids. The time he spent in childhood is almost ended. Now, there’s not much left.” (Participant 6)

“Yes, it’s a pity that I haven’t arranged many activities with my children and I didn’t build up a lot of memories, but it’s too bad that [the opportunity] passed.” (Participant 7)

“The coronavirus has prohibited graduation ceremonies and taking pictures with friends. But these things don’t exist, so children are very disappointed. It’s not there, so it’s kind of sad.” (Participant 9)

Worry about media-dependent parenting
The increasing use of media during childcare led to parental ambivalence, balancing convenience against regret, and exacerbated the emotional dynamics between parents and children.

1) Dehumanized digital-dependent parenting
 Participants described resorting to digital-dependent parenting,
where television and smartphones were frequently used as tools to occupy children during busy or difficult times.

“Housework takes a lot of time. But if the kids are around all the time, that doesn’t work either. So the kids keep watching TV again. I even showed him (5 years old) my mobile phone. If you give them a mobile phone, everything is quiet for several hours.” (Participant 3)

“I showed TV or mobile phone a lot to my babies. Since we can’t care for them all day, I did a lot of that. I’m worried—isn’t it bad for the eyes? I showed YouTube to my babies for a while when I was having a hard time.” (Participant 4)

2) Ambivalence: convenience but regret
Participants expressed ambivalence about using television as a convenient but regrettable parenting tool, recognizing its utility for taking necessary breaks yet feeling uneasy about the potential negative effects on their children’s development.

“I showed TV to my child because I wanted to take a break. Even so, there’s a saying that TV isn’t good, it’s better not to watch it. When I was tired, I told her (6 years old) to watch TV. There are moments when I feel uncomfortable.” (Participant 8)

3) Aggravation of emotions between parents and children
Participants described aggravated emotional dynamics in their relationship with their child(ren), largely due to conflicts over excessive use of digital devices such as mobile phones and computers.

“I argue with my child (12 years old) because they use mobile phones and computers a lot. Stop it! Phone! Sometimes I just take his phone. I was very angry with his father (who allowed that). No one in my family wears glasses. (Participant 2)

“Be sure to return the mobile phone by 8 pm. If I don’t remind him (13 years old) about it for a while, he doesn’t return it even if it’s late. If he watches the phone secretly, I get even more angry. He said he was talking to his friend in an angry voice, ‘Why can’t I just be a little late?’” (Participant 6)

“My kid (10 years old) always uses a laptop and plays phone games, and he does a lot of that. Because of that, he looks at the phone a lot. I’m very upset. But I can’t prevent it. I have to say it (stop) two or three times.” (Participant 10).

4) Efforts to reduce overreliance on digital devices
Participants actively sought to mitigate their children’s reliance on digital devices by incorporating alternative activities “I can’t keep watching the rest of the time, so I intentionally take him to run some errands. You have to kill time like this.” (Participant 2)

“My husband keeps buying used toys at the secondhand mar-
ket every week. She (4 years old) can get a little bit of interest from them.” (Participant 3)

“My husband cares for the children and I think he shows them a lot of TV. So I like to do exercise at home, and I did something similar to yoga with my kids using a gym ball.” (Participant 7)

**Feelings of incompleteness and exclusion**
Participants’ narratives revealed a poignant struggle, where foods that lack the essence of nationality symbolize a loss of cultural identity, unfamiliarity with the Korean education system leads to a sense of disorientation as a primary caregiver, challenges exist in forming meaningful friendships as a mother, and it is necessary to rely on siblings, spouses, and neighbors in the shared journey of parenting.

1) Not confident in assimilating culturally
Participants expressed a lack of confidence in culturally assimilating, particularly through cooking, as they struggled with preparing traditional Korean meals for their families.

“It’s so hard to cook. So I looked for Korean food on YouTube. So I found about 10 or 20 dishes that my husband and kids can eat. So I’m going to a cooking academy right now. My husband wanted me to pay more attention to the kids’ food.” (Participant 3)

“Cooking is the hardest thing. We have to change the menu every day. I think it’s the hardest. During COVID-19, You’re not good at Korean food either. I keep looking, searching, watching, and copying.” (Participant 4)

“It is not an easy task to provide food. Because it’s a dish with no name. I don’t know if it’s a Korean or Japanese dish. I ordered delivery from one of the side dish stores. I too have accumulated so much stress even with cooking that I can’t do it.” (Participant 7)

2) Lack of experience in the education system
Participants highlighted their struggles with the education system, feeling underprepared and overwhelmed by the demands of assisting with their children’s homework and educational activities.

“The homework from kindergarten is to send me a study guide. I don’t even know what to write. I’m not good enough. I have to play the role of a teacher. I’m a foreign mom, which is why they give this to me too.” (Participant 4)

“School teachers upload their files and now they have to do a home correspondence or something like that. Even if they upload the files, I don’t know the contents. I can’t do it. The kids are doing their homework. I did it when I was in school in Vietnam and now it’s completely different. There’s no one to ask about
anything. I still don’t know because I studied it the old way. The level is also very high, here in Korea.” (Participant 6)

3) Socially disconnected as a mother
Participants expressed feelings of social disconnection as mothers, highlighting the challenges of managing childcare without personal time or opportunities for social interaction due to the pandemic restrictions.

“...I have to spend time with my kids, so I don’t have personal time, I can’t meet other friends, and there’s no other way to relieve stress at that time. If it was the same as before, I would solve [my problems] with a friend. I went out and ate delicious food, but I couldn’t do that anymore, because I was socially disconnected.” (Participant 7)

“I honestly don’t have a place to leave my baby (6 years old). I have yet to meet Korean mothers who are close enough to leave my baby with. I am a little worried about who I can entrust with the baby. What should I do when I have to leave the child urgently? It’s not like we had opportunities to get to know each other like we did in the past, but it’s because we’ve become more careful with each other.” (Participant 8)

“I’m bored at home and I’m at home all the time. I can’t even meet friends, it’s so hard. It’s hard to work at home every day. When I was at home, I was frustrated because I was stressed and I scolded my kid a lot.” (Participant 9).

4) Hard to parent without outside help due to the pandemic
Participants described significant challenges in parenting without outside help during the pandemic, particularly due to limited direct communication with schools and the need to manage children’s online classes while maintaining work commitments.

“I ask my husband or call the schoolteacher directly. I had a lot of difficulties asking for things.” (Participant 4)

“That’s an online class, I go to work every day. At home, only the kids (12 and 14 years old) take care of the online class. It was a little difficult for me for a few months, and I was worried too much. I was afraid I wouldn’t be able to keep up with their studies. My acquaintance at church comes here sometimes once a week to study together with the kids.” (Participant 9).

“I am a foreigner, notifications and text messages from school don’t reach me. I’m curious about a call from school. He (10 years old) tells me not to worry because his sister (11 years old) will take care of him.” (Participant 10)

Discussion
This descriptive qualitative study explored the nature and structure of marriage immigrant women’s experiences while raising children during the COVID-19 pandemic using the phenomenological method of Colaizzi [13]. The experiences of raising school-age children in the early years of the COVID-19 pandemic were divided into four theme clusters and 14 themes.

The first theme cluster, “navigating child healthcare alone,” encompassed health risk factors due to increased consumption of instant food, obesity, the risk of diabetes, and a lack of activity, exercise, and sunlight exposure. The school closure restraint order, which was implemented as a strong administrative measure by the government to prevent the spread of COVID-19, resulted in reduced activity, increased screen time, weight gain due to irregular sleep and dietary intake, decreased cardiorespiratory function, and negative effects on mental health [18]. The lack of outside activities also affected the emotional health of children of immigrant families in Canada, increasing their fear and anxiety [15]. A decrease in visual acuity due to increased media use, changes in children’s lifestyle and habits, resulting in delayed sleep-wake times, and decreased outdoor activities are consistent with a prior study [15]. Children’s dental cavities became more serious because of restrictions on the use of the bathroom at school, prohibiting brushing teeth at school, and using gargles rather than toothbrushes. Increasingly many participants have had to visit clinics or hospitals for the health management of their children. It was difficult for mothers to understand medical prescriptions for their children’s diseases. Marriage immigrant women have difficulties obtaining information from medical institutions due to language barriers, which makes it more challenging for them to encourage their children to engage in health-promoting health activities [18]. Both during the pandemic and in non-pandemic times, migrant women face significant challenges related to language barriers and cultural adaptation, impacting their ability to access healthcare, educational resources, and community support for themselves and their children. Navigating healthcare became even more challenging due to the pandemic-related restrictions, as healthcare systems were overwhelmed and information was rapidly changing. To prevent the future emergence of health problems, education and outreach should be strengthened to take into account linguistic and sociocultural limitations and low access to healthcare [17].

The second theme cluster, “guilt for not providing a social experience,” expressed low sociability due to reduced school attendance and the disappearance of opportunities to make child-
hood memories. It was reported that the lack of interactions with peers or teachers prolonged children's tendency to refrain from going out due to COVID-19. The experiences of frustration and boredom can have a greater and longer-lasting psychological impact on children than physical problems [18]. Feelings of guilt and stress related to parenting responsibilities are common among migrant women, driven by concerns about providing adequately for their children's social and educational needs in a new and often challenging environment. Sprang and Silman [19] reported psychosocial stress and lifestyle changes due to long-term reductions in outside activities, and it has been stated that a decrease in outside activities could negatively affect children's physical and mental health, leading to a vicious cycle. Lockdowns and social distancing measures led to a significant reduction in school attendance and the loss of opportunities for children to interact with their peers, exacerbating feelings of guilt among migrant mothers. During COVID-19, the children of Latinx immigrants in the United States reported negative childhood experiences and toxic stress. There were restrictions on the use of schools' social and emotional resources, and they were isolated because it was difficult to use social services [20]. Regular interactions with healthy adults are helpful for the social development of isolated children; thus, transcultural external resources other than parents are needed [20].

The third theme cluster, “worry about media-dependent parenting,” related to the time spent on childcare, increasing media use due to increased indoor activities, ambivalence, and aggravation of parent-child emotional dynamics. A previous study reported that children who spent more time alone at home due to school closures or reduced outdoor activities spent more time using electronic devices [18]. Migrant women often experience social isolation due to cultural differences, language barriers, and in some cases geographical separation from their families and support networks. The mothers felt sad about missing this important period for the children in Korean society [18]. A study not conducted among immigrants reported that parental domestic violence against children was higher in families with high parental stress, anxiety, economic burden, and parenting burden during COVID-19 [21]. During the pandemic, social hypervigilance, sensitivity, anxiety, and hostility increased, and discrimination against Asian minorities in particular increased [22]. At a time when social sensitivity to immigrants has increased, immigrant parents need more social support for raising their children because social stress is aggravated as their children spend more time indoors [19]. Various intervention programs, such as customized family unit interventions or psychological counseling for crisis management and family support, should be developed in consideration of each family's functions and dynamics in order to increase families' ability to overcome difficulties.

The fourth theme cluster was “feelings of incompleteness and exclusion.” Migration to Korea through marriage requires adaptation to the developmental task of marriage and environmental changes in the residential environment and culture as immigrants move away from their original families [6]. In particular, understanding Korean culture, cooking, and literacy to the degree necessary for raising children can be a crisis for immigrant women who have to adapt and raise children at the same time. These issues merit more attention because marriage immigrant women experience high parenting stress due to the lack of support from their original families as they are far away from their parents [8]. Koh and Koh [23] stated that marriage immigrant women experienced language barriers when using Korean medical services and had anxiety due to a lack of information about their children's health status. In addition, negative psychological risk factors such as depression and anxiety due to COVID-19 increased social media exposure when family support was low [24]. With an increasing amount of time spent at home, the benefits of experiencing one's native culture and spending meaningful time with one's family were also reported [15]. Social support for marriage immigrant women is necessary because increased social support during a pandemic and a greater sense of control can significantly reduce the likelihood of excessive stress and the risk of child abuse [25]. The pandemic heightened the sense of isolation and exclusion among migrant women, not only from their communities due to social distancing measures but also from support systems that might have been accessible pre-pandemic. Support should be provided to establish a social safety net for married migrant women and an intergenerational experience transfer network for marriage migrants [26].

As discrimination against foreigners intensified during the pandemic, migrant women experienced a sense of disconnection due to social prejudice. Since negative views towards foreigners have increased through online media, timely and well-communicated education and public activities to promote sensitivity to human rights should be strengthened to avoid racism and discrimination [27]. Inclusiveness policies should be publicized through the media to prevent anti-immigrant sentiment and hostile feelings against immigrants in the post-pandemic society. Social support for marriage immigrant women is necessary because the more parents are provided with social support during a pandemic and the more they feel in control, the less likely they are to experience excessive stress and commit child abuse [25]. To promote equity
in public health moving forward, immigrant communities’ participation in post-COVID-19 relief funding, social support, and vaccination policy processes should be prioritized [26].

This study provided deep insights into the difficulties of parenting experienced by marriage immigrant women living in Korea. Navigating child healthcare alone, guilt for not providing a social experience, worry about media-dependent parenting, and feelings of incompleteness were derived as theme clusters. This study will inform nursing interventions and family care policies for marriage immigrant women by describing their experiences in the COVID-19 context. This study explored the perspectives of mothers who raised children as marriage migrant women and experienced physical and emotional health crises due to the COVID-19 pandemic, both for themselves and for their children. This study also makes an important contribution by helping to understand the difficulties of marriage migrant women who feel that they are lacking as caregivers.

The limitations of this study are the fact that the study was conducted with mothers in only certain regions. The family is a basic unit of society, and further research is needed to specifically identify and measure aspects of the crisis in order to facilitate positive adaptations in a crisis situation. In addition, it is suggested that various intervention programs—such as customized family unit interventions or online psychological counseling for crisis management and family support—should be developed and implemented with consideration of each family’s functions and dynamics in order to increase the family’s ability to overcome difficulties.

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Authors’ contributions

Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration: All authors; Funding acquisition, Visualization: Kim HK; Writing–original draft: All authors; Writing–review & editing: All authors.

Conflict of interest

Hyun Kyoung Kim has been associate editor of Women’s Health Nursing since January 2022. She was not involved in the review process of this manuscript. Otherwise, there was no conflict of interest.

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Data availability

Please contact the corresponding author for data availability.

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References


Introduction

The postpartum phase has been identified as a difficult transition period for women due to physical, psychological, and emotional changes [1]. Significant changes in the mother’s familial and interpersonal relationships lead to the experience of varied emotions of joy, pleasure, sadness, and crying bouts. The inability of mothers to cope with these changes may lead to postpartum stress [2]. Stress has several negative consequences on physical health and general well-being, including sleep disturbances, loss of appetite, and poor lifestyle habits. If postpartum depression (PPD) and stress are not addressed, they may escalate into chronic depression [2-4].

PPD is defined according to the Diagnostic and Statistical Manual as a major depressive episode within 4 weeks after childbirth. It is diagnosed based on the presence of depression symptoms nearly every day, with a significant deviation from the previous routine. Mothers are diagnosed when they show either depression or anhedonia, as well as any five of the following symptoms: sleep disturbance, psychomotor agitation or retardation, feelings of worthlessness, fatigue, suicidal ideation or a suicide attempt, indecisiveness, and loss of appetite. Those symptoms can

Factors influencing postpartum depression in Saudi women: a cross-sectional descriptive study

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Purpose: This study aimed to investigate the prevalence of postpartum depression (PPD) and stress, as well as factors influencing PPD, among women in Saudi Arabia.

Methods: This study employed a cross-sectional online survey and recruited participants during postpartum visits to the Clinic of Gynecology and Obstetrics in Al-Khobar, Saudi Arabia. Data collection was done using Arabic versions of the Edinburgh Postnatal Depression Scale, Perceived Stress Scale, and a sociodemographics and obstetric history questionnaire. Descriptive and inferential analyses were conducted, including multiple linear regression using a stepwise method.

Results: Data from the 270 participants showed low levels of postpartum depressive symptoms with a mean score of 2.54±4.5 and low levels of perceived stress with a mean score of 2.49±6.2. While 94.4% of the participants reported low levels of stress and PPD, 5.6% reported elevated levels (≥10 for PPD, ≥14 for stress). The stepwise regression analysis showed significant results ($p$<.001), accounting for 34% of the variance in PPD. The factors significantly influencing PPD included the type of family, stress, number of abortions, disease during pregnancy, and family income. Important ly, perceived stress emerged as a factor influencing PPD.

Conclusion: Although the majority of participants exhibited low levels of PPD, about 1 in 18 showed elevated levels. The identification of significant influencing factors highlights the need for targeted interventions to effectively address mental health concerns in postpartum women.

Keywords: Demography; Depression; Postpartum period; Saudi Arabia
affect a woman’s life and cause distress and or impairment [5].

PPD has a high prevalence among women worldwide. In Saudi Arabia, the prevalence of PPD among women was reported to range from 45.64% [1] to 52.25% [6]. Several studies in Saudi Arabia have explored the prevalence of PPD [7-10]; however, few have focused on identifying comprehensive influencing factors related to PPD [1,6]. Therefore, the high prevalence of PPD among women in Saudi Arabia compared to Western countries prompted this study to explore factors influencing PPD. This study is expected to make a significant contribution by identifying possible strategies to reduce PPD prevalence among women in Saudi Arabia specifically, and the Middle East in general.

Several factors influencing PPD have been reported in previous studies, including sociocultural, biological, psychological, and psychiatric elements. Psychological stress in women, for example, manifests through marital dissatisfaction, parental stress, fear of labor outcomes, postpartum mood swings, and the burden of childcare [11,12]. Prenatal indicators are also associated with anxiety. For example, in some cultures, there is pressure from parental expectations and fear of the outcomes of labor [13,14].

PPD can arise from depression during pregnancy. A review of 16 studies revealed that women who reported depression or antenatal depression and were taking antidepressants during pregnancy had a higher risk of developing PPD [15,16]. Additionally, a history of personality disorders [17] or somatic disorders during the first 3 months of pregnancy has been identified as a risk factor for PPD [18]. Furthermore, women whose newborns had low birth weights or were female also faced a greater risk of PPD [19]. Moreover, among Arab women, having a cesarean section has been identified as a significant predictor of PPD [1].

In Saudi Arabia, the Ministry of Health provides comprehensive prenatal and postpartum care services. Despite this, reports indicate that 47.9% of women miss one or more appointments, and 15.7% are uncertain about attending their follow-up appointments [20]. This contributes to a lack of awareness about PPD, even among those who have experienced it in previous pregnancies and postpartum periods [21]. Thus, it is crucial to investigate the factors associated with PPD in Al-Khobar, which is located in the eastern region of Saudi Arabia, including stress levels and sociodemographic/obstetric and maternal factors.

This study aimed to examine the prevalence of PPD and stress levels among women in the eastern region of Saudi Arabia, as well as to identify its influencing factors. This research is expected to make a significant contribution since previous studies have reported high levels of PPD. The findings of our study will help identify the factors influencing PPD and will provide implications for practice regarding the early detection and treatment of PPD.

Methods

**Ethics statement:** Ethical approval was granted by the Institutional Review Board at Imam Abdulrahman Bin Faisal University (IRB-2022-04-435). Informed consent was secured from study participants.

**Study design**

This study employed a quantitative cross-sectional design. The study adhered to the STROBE (STrengthening the Reporting of OBServational studies in Epidemiology) reporting guidelines (https://www.strobe-statement.org/).
Factors of postpartum depression among Saudi women

Study sample
Participants were recruited from a teaching hospital located in the eastern region of Saudi Arabia during their visits to the Clinic of Gynecology and Obstetrics within 6 weeks postpartum. This study employed convenience sampling.

The inclusion criteria were women within the age range of 18 to 49 years, within 6 weeks postpartum, who currently had a husband. The exclusion criteria were women with a self-reported history of depression and having a newborn with anomalies or born preterm. All types of deliveries were considered, except in cases where the newborn had anomalies or was born preterm. We conducted a power analysis using G*Power software [22] to determine the sample size needed for the linear multiple regression analysis. The input parameters were an effect size (f²) of 0.10, alpha (α) of 0.05, power (1–β) of 0.80, and 15 predictors. The analysis showed that a total sample size of 201 was required. Factoring in an approximately 20% dropout rate [23], the target sample size was 242 participants. Eventually, a total of 308 participants were enrolled in the study, with 38 exclusions due to a self-reported history of depression and having a newborn with anomalies or was born preterm. All types of deliveries were considered, except in cases where the newborn had anomalies or was born preterm. Thus, the final analysis included 270 women.

Measurement
Research data were collected using the following tools:

- PPD: The Arabic version [24,25] of the Edinburgh Postnatal Depression Scale (EPDS) was used to evaluate PPD [26]. The EPDS consists of a 10-item self-reported questionnaire that assesses various areas, including anhedonia, self-blame, anxiety, fear or panic, inability to cope, sleep difficulties, grief, crying, and self-harm. Each item is scored on a range from 0 to 3, indicating the severity of symptoms (possible range, 0–30; with a score of 10 or higher representing depressive symptoms). The Arabic version of the EPDS is widely recognized as a reliable and accurate screening tool for perinatal depression [27]. According to the recommendation to employ a threshold of 10 and greater for depression [28], a score of ≥ 10 indicates the presence of depressive symptoms. The Cronbach's alpha coefficient in this study was 0.96, indicating high internal consistency.

- Stress: The Perceived Stress Scale (PSS-10) [29] is a widely used self-reported scale for assessing stress in various groups, including postpartum women. This scale comprises 10 items that inquire about an individual’s feelings and thoughts regarding the level of life stressors experienced over the past month. Responses for each item are recorded on a 5-point Likert scale, ranging from 0 (never) to 4 (very often). A higher total score (possible range, 0–40) indicates higher perceived stress levels. The PSS has been translated into Arabic and has demonstrated satisfactory psychometric properties [25]. To interpret the PSS scores in our study, we applied the following categories according to a prior study [29]: scores ranging from 0 to 13 were classified as low stress, scores from 14 to 26 as moderate stress, and scores from 27 to 40 as high stress. The Cronbach’s alpha coefficient in this study was 0.98.

- Sociodemographics and obstetric history questionnaire: A questionnaire was prepared by the study’s researchers based on previous studies, eliciting data related to sociodemographic characteristics (age, education level, employment status for participant and her husband, Income, type of family, number, and gender of children, and support person) and obstetric history (abortion, type of pregnancy, type of feeding, planned pregnancy, and disease during pregnancy).

Data collection process
The study team conducted the data collection, identifying potential participants through outpatient clinic nurses. Potential participants were nominated by outpatient clinic nurses and were given invitation letters that contained full information about the study and a barcode and weblink for the study questionnaires. Women who were interested in participating in the study filled out electronic self-reported questionnaires at their convenience within 2 weeks of receiving the invitation letters. All eligible individuals received invitation letters containing comprehensive study information and completed electronic self-reported questionnaires.

Data analysis
Research data were entered and analyzed using IBM SPSS ver. 22 (IBM Corp., Armonk, NY, USA). Descriptive analyses, including mean, standard deviation (SD), and percentages were employed. The independent-sample t-test and analysis of variance were used to measure the difference in the independent variables by the presence of PPD. In addition, Multiple linear regression utilizing a stepwise method was used to regress PPD on PSS, along with the sociodemographic and obstetric history variables as covariates. The result was considered significant at an alpha level of p < 0.05.

The Mahalanobis distance method [30] was utilized to identify and eliminate outliers from the dataset. It should be noted that all variables utilized in the analysis, including demographic and maternity factors, were treated as categorical variables. Moreover, the significant sample size of 270 participants strengthens the robustness of the analysis, enabling more reliable parameter estima-
tion and mitigating the potential impact of deviations from normality.

Results

Table 1 provides a description of the participants' characteristics. Of the 270 women in the study, most were between the ages of 31

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Categories</th>
<th>N (%)</th>
<th>Mean (SD)</th>
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<td>13.5 (0.6)</td>
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<td>264 (91.0)</td>
<td>1.8 (0.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>263 (90.7)</td>
<td>1.8 (3.5)</td>
<td>.378</td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>27 (9.3)</td>
<td>9.2 (7.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Husband’s employment</td>
<td></td>
<td></td>
<td></td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Employed</td>
<td>269 (92.8)</td>
<td>1.7 (3.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>21 (7.2)</td>
<td>13.3 (2.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family income (SAR)</td>
<td></td>
<td></td>
<td></td>
<td>&lt;.001‡</td>
</tr>
<tr>
<td>&lt; 5,000</td>
<td>10 (3.4)</td>
<td>13.4 (0.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5,000–10,000</td>
<td>30 (10.3)</td>
<td>8.4 (7.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 10,000</td>
<td>250 (86.2)</td>
<td>1.4 (2.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of family</td>
<td></td>
<td></td>
<td></td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Nuclear</td>
<td>262 (90.3)</td>
<td>1.3 (2.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extended</td>
<td>28 (9.7)</td>
<td>14.0 (1.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of child(ren)</td>
<td></td>
<td></td>
<td></td>
<td>.998</td>
</tr>
<tr>
<td>1–2</td>
<td>162 (56.9)</td>
<td>2.1 (3.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3–4</td>
<td>82 (28.3)</td>
<td>2.7 (4.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5–6</td>
<td>21 (7.2)</td>
<td>2.3 (4.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 6</td>
<td>25 (8.6)</td>
<td>5.1 (7.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender of child(ren)</td>
<td></td>
<td></td>
<td></td>
<td>.227</td>
</tr>
<tr>
<td>Girls</td>
<td>69 (23.8)</td>
<td>5.1 (1.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>29 (10.0)</td>
<td>2.4 (5.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both</td>
<td>192 (66.2)</td>
<td>1.5 (2.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of abortion(s)</td>
<td></td>
<td></td>
<td></td>
<td>&lt;.001§</td>
</tr>
<tr>
<td>0</td>
<td>262 (90.3)</td>
<td>1.8 (3.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>23 (7.9)</td>
<td>8.7 (1.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2 (0.7)</td>
<td>11.5 (1.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1 (0.3)</td>
<td>13.0 (0.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>2 (0.7)</td>
<td>13.0 (0.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of pregnancy</td>
<td></td>
<td></td>
<td></td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Single</td>
<td>262 (90.3)</td>
<td>1.6 (0.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple</td>
<td>22 (7.6)</td>
<td>14.1 (1.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of newborn feeding</td>
<td></td>
<td></td>
<td></td>
<td>&lt;.001§</td>
</tr>
<tr>
<td>Breast</td>
<td>195 (67.2)</td>
<td>1.5 (0.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottle</td>
<td>39 (13.4)</td>
<td>6.5 (0.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both</td>
<td>56 (19.3)</td>
<td>5.3 (0.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of delivery</td>
<td></td>
<td></td>
<td></td>
<td>.012</td>
</tr>
<tr>
<td>CS</td>
<td>51 (17.6)</td>
<td>8.0 (1.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NVD</td>
<td>239 (82.4)</td>
<td>1.3 (0.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planned pregnancy</td>
<td></td>
<td></td>
<td></td>
<td>.807</td>
</tr>
<tr>
<td>No</td>
<td>40 (13.8)</td>
<td>7.2 (1.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>250 (86.2)</td>
<td>1.8 (0.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disease during pregnancy</td>
<td></td>
<td></td>
<td></td>
<td>.008</td>
</tr>
<tr>
<td>Yes</td>
<td>33 (13.8)</td>
<td>6.0 (1.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>257 (88.6)</td>
<td>2.1 (0.8)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CS: Cesarean section; HSD: honest significant difference; NVD: natural vaginal delivery; SAR: Saudi Arabian riyal.
5,000 SAR is equivalent to 1,333.3 US dollars (2023).
†Tukey HSD test: elementary vs. secondary (p = .039), secondary vs. university (p = .006).
‡Tukey HSD test: 5,000–10,000 vs. > 10,000 (p < .001).
§Tukey HSD test: 0 vs. 1 (p = .001), 0 vs. 2 (p = .015).
ǁTukey HSD test: breast vs. both (p < .001).

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and 40 years (35.2%). The majority of the participants had a bachelor's degree (91.0%), and were employed (90.7%). The majority (86.2%) of families reported having a monthly income of more than 10,000 Saudi Arabian Riyal (SAR), which is roughly 2,666.2 US dollars and comparable to the national mean income of the study period (32,529.7 SAR gross domestic product per capita for the year 2023, [31]). Additionally, most participants reported having one to two children (55.9%), were members of nuclear families (90.3%), and had never had an abortion (90.3%). Women who exclusively breastfed their newborn represented 67.2% of the participants, followed by combined breastfeeding and bottle-feeding (19.3%). The majority had typical vaginal births (82.4%) and planned pregnancies (86.2%). Only a small percentage of pregnant women (13.8%) reported having an illness during pregnancy. In terms of age, education, employment status, and family factors, the study population included a heterogeneous group of women.

As shown in Table 1, mother’s education was significantly associated with depression levels, with women who had a secondary education exhibiting lower depression levels compared to those with elementary (grades 1–6), and higher than university education. The Tukey honest significant difference (HSD) test demonstrated that the discrepancy in depression levels was significant between elementary and secondary education (p = .039) and between secondary and university level education (p = .005).

The husband’s employment status was significantly associated with depression levels, with women whose husbands were employed displaying lower depression levels than those whose husbands were unemployed (p < .001). Women who had a family income of less than 5,000 SAR (1,333.3 US dollars) demonstrated higher depression levels than those with a family income of 5,000 to 10,000 SAR or more than 10,000 SAR (p < .001). The Tukey HSD test revealed that the difference in depression levels was significant between 5,000–10,000 SAR and > 10,000 SAR (p < .001). The Tukey HSD test revealed that the difference in depression levels was significant between breastfeeding and both feeding methods (p < .001). The Tukey HSD test revealed that the difference in depression levels was significant between breastfeeding and both feeding methods (p < .001). The type of delivery was also significantly associated with depression levels, with women who had a cesarean section displaying higher depression levels than those who had a normal vaginal delivery (p = .012). There was no significant association between planned pregnancy and depression levels, but women who had a disease during pregnancy displayed higher depression levels than those who did not (p = .008). The number and gender of child(ren) were not significantly associated with depression levels.

As presented in Table 2, the mean score for the EPDS was 2.54 (SD, 4.5), with 94.4% of participants scoring 10 or less, indicating relatively low levels of depressive symptoms. Similarly, the mean score for the PSS-10 was 2.49 (SD, 6.2), with 94.4% reporting low levels (0–13) of stress, while 5.6% reported moderate levels (14–26), suggesting a relatively low level of perceived stress among the participants. In summary, the descriptive statistics show that, overall, the study participants reported low levels of PPD and perceived stress (Table 2).

The stepwise multiple regression analysis conducted in this study revealed that the model was statistically significant (F = 27.41, p < .001), with the following predictors explaining 33% of variance in PPD. First, participants from extended families displayed a higher susceptibility to PPD than those from nuclear families (B = 1.84, p < .001). This emphasizes the significant

Table 2. Descriptive statistics and distribution of postpartum depression and stress scores among participants (n=270)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean (SD)</th>
<th>Categories</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postpartum depression</td>
<td>0</td>
<td>24</td>
<td>2.54 (4.5)</td>
<td>No (&lt; 10)</td>
<td>255 (94.4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes (≥ 10)</td>
<td>15 (5.6)</td>
</tr>
<tr>
<td>Stress</td>
<td>0</td>
<td>23</td>
<td>2.49 (6.2)</td>
<td>Low (0–13)</td>
<td>255 (94.4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Moderate (14–26)</td>
<td>15 (5.6)</td>
</tr>
</tbody>
</table>

https://doi.org/10.4069/whn.2024.06.18
influence of family dynamics on postpartum mental health. Second, the analysis revealed a strong negative correlation between stress levels and PPD ($B = -0.55, p < .001$). Higher stress levels were associated with lower levels of PPD, underscoring the importance of stress management in mitigating the risk of depressive symptoms. Furthermore, participants with a history of one abortion had higher PPD scores than those with no history of abortions ($B = 0.48, p = .007$), suggesting that abortions may have consequences on maternal mental health.

Moreover, the absence of diseases during pregnancy exhibited a correlation with lower levels of PPD ($B = -0.30, p = .020$), thus indicating the significance of maternal health throughout pregnancy. Additionally, higher family income levels (5,000–10,000 SAR) were associated with higher PPD scores ($B = 0.43, p = .007$), indicating a complex relationship between socioeconomic status and maternal mental health outcomes (Table 3).

**Discussion**

The study aimed to determine the prevalence of PPD and stress among women in Saudi Arabia and to identify factors influencing PPD. The study found that while most women experienced low levels of PPD (using the culturally appropriate cutoff of 10) and stress, a smaller number of women experienced higher levels. These results are consistent with previous studies in Saudi Arabia that used the same measurement tool (EPDS) in Qassim (in the central region) [7], and in Jeddah (in the western region) [8]. Meanwhile, recent studies in different regions of Saudi Arabia have reported a high prevalence of PPD. For example, in Al-Kharj (in the east-central region) the PPD prevalence was 32.8% according to an observational study [9]. In Jazan (in the southwest region) the PPD prevalence was 75.7% using the EPDS [32], and in Riyadh (in the central region) the PPD prevalence was 38.5% using the EPDS [33]. The differences in the prevalence of PPD between the current study and previous studies can be attributed to various factors, including different research designs (observational design), data management (different cutoff points), diagnostic criteria, and geographical variations [7,9,34]. Therefore, it is crucial to consider these factors when comparing the prevalence of PPD at the country level or internationally.

Our study identified perceived stress as a factor influencing PPD, by which higher stress levels were associated with lower levels of PPD. This result is contradictory with previous studies [35-37] as those studies reported intercorrelations of stress, anxiety, and depression during the peripartum period. However, a recent Saudi study [38] reported that 95.7% perceived social support from surrounding people. The protective role of social support against stress is well-documented and is likely linked to lower PPD rates. Additionally, this outcome may be viewed through the lens of women’s insights into stress and their effective use of coping strategies that give women more resilience against depressive symptoms during the postpartum period. Thus, we emphasize the importance of stress management in moderating the risk of depressive symptoms. Therefore, assessments, evaluations, and early interventions should be done to manage women’s stress during the postpartum period.

The current study found that employed husbands and high-income families were associated with lower levels of PPD, aligning with previous research [8,33,39]. One study indicated that the prevalence of PPD among women from high-income families was 4.8 times lower than among those from low-income families [8]. However, other studies have found no correlation between family income and PPD prevalence [7,10]. The difference between this study and other studies conducted in Saudi Arabia lies in the use of different measurement tools and diagnostic criteria. Therefore, it is crucial to consider these factors when comparing the prevalence of PPD at the country level or internationally.

| Table 3. Factors influencing postpartum depression (n=270) |
|-----------------|-------|------|-------|-----------------|
| Variable        | B     | SE   | $\beta$ | $p$  | $R^2$ | F     | Adjusted $R^2$ |
| (Constant)      | -0.15 | 0.12 | .204   | .34  | 27.41 | 0.33 |
| Type of family (ref: nuclear) | | | | | | |
| Extended        | 1.84  | 0.25 | 0.42   | <.001 | | |
| Stress          | -0.55 | 0.06 | -0.56  | <.001 | | |
| Number of abortion(s) (ref: 0) | | | | | | |
| 1               | 0.48  | 0.18 | 0.15   | .007  | | |
| Disease during pregnancy (ref: yes) | | | | | | |
| No              | -0.30 | 0.13 | -0.12  | .020  | | |
| Family income (ref: < 5,000 SAR) | | | | | | |
| 5,000–10,000    | 0.43  | 0.15 | 0.15   | .007  | | |

ref, Reference; SAR, Saudi Arabian riyal.
5,000 SAR is equivalent to 1333.3 US dollars (2023)
in the method of income categorization. While this study uses actual income brackets ( < 5,000, 5,000–10,000, and > 10,000 SAR), a study in the central region assessed income based on women’s perception of their income as low, moderate, or high [7]. Another study in the western region categorized income simply as sufficient or insufficient [10]. Consequently, the findings concerning income and PPD should be interpreted with caution due to these variations in data categorization and management. It is important to note that this study was conducted in the eastern region of Saudi Arabia, home to the world’s largest oil fields, which likely contributes to high employment opportunities. This may explain why a significant portion of the study sample (81.2%) reported a high monthly income. Therefore, our results may be influenced by the financial support women receive from their husbands, which could enhance their living conditions and help them manage the physiological and psychological changes during the peripartum period.

This study’s finding that women living in nuclear families had lower levels of PPD aligns with a study from Turkey [40], which reported stronger associations between PPD and lower marital relationship quality in traditional and extended family settings. This contrasts with findings from some studies conducted in China [41] and India [42]. The discrepancy may be attributed to the direct support women in nuclear families receive from their spouses and their fewer social obligations compared to those in extended families. Additionally, the differences in results between this study and others may be influenced by cultural variations. Therefore, we encourage future research to explore the relationship between family type and PPD through cross-cultural studies.

In the current study, cesarean section was identified as a significant factor influencing PPD. This observation aligns with several previous studies [33,43,44]. Conversely, a study from Brazil found no correlation between the mode of delivery and PPD [45], while research from Saudi Arabia revealed that women who had spontaneous vaginal deliveries exhibited higher depression levels than those who underwent cesarean sections [21]. Additionally, women with a single pregnancy showed significantly lower average depression scores. This is supported by a multinational study [46], which reported a higher prevalence of postpartum depressive symptoms among mothers of twins—11.3% compared to 8.3% among those with a single pregnancy. This difference may be attributed to the physical discomfort and increased medical risks associated with multiple pregnancies. Furthermore, women who exclusively breastfed their babies exhibited lower rates of PPD. This finding is consistent with research [47] indicating that exclusive breastfeeding is associated with a 53% reduced risk of PPD. The protective effects of breastfeeding, which promote positive interactions between mother and newborn and increase maternal satisfaction, may explain this association.

This study identified disease during pregnancy as a factor influencing PPD. This finding aligns with research conducted in Vietnam [48], which also recognized the presence of disease during pregnancy as a significant factor in the development of PPD. The negative impact of physical illness on the mental health of pregnant women, coupled with concerns about potential complications for the fetus, can explain this association. Additionally, the study revealed that the number of abortions a woman has experienced influences her risk of developing PPD. This observation is consistent with findings from previous studies conducted in India [49], Turkey [50], and Ethiopia [51]. Specifically, one study [51] reported that women with a history of abortion were about twice as likely to develop PPD compared to those without such a history. This increased risk may be attributed to the emotional distress and deteriorating health following an abortion, which adds psychosocial stress in subsequent pregnancies and, consequently, raises the likelihood of perinatal depression.

The mother’s education was significantly associated with depression levels; women with a secondary education exhibited lower depression levels compared to those with other levels of education. This finding aligns with previous research that associates higher educational levels with a reduced risk of PPD and identifies secondary education as a protective factor against PPD [52]. Specifically, secondary education often leads to vocational training, which typically results in intermediate job positions between the lowest and highest levels of educational attainment.

While this study presents significant findings regarding PPD among women in Saudi Arabia, it is important to acknowledge certain limitations. First, although 15 women were identified with PPD, the sample size was too small to permit detailed analysis. Second, the cross-sectional design of this study only assesses the prevalence of PPD at a single point in time and does not account for changes over time. Additionally, the study sample was recruited solely from one university hospital, limiting the generalizability of the results to all Saudi women in the same region.

In conclusion, this study revealed that while most postpartum Saudi women experienced low levels of depression and stress, only a small proportion reported higher levels of depression. Several factors were identified as influencing PPD, including family type, stress, number of abortions, disease during pregnancy, and family income. The nursing team plays a crucial role in the early
detection of stress during the early postpartum period. It is essential that postpartum stress is continuously monitored and assessed. Nursing interventions should prioritize education on stress-reduction techniques and provide guidance on seeking further help if stress levels are unmanageable. A practical approach would involve close monitoring throughout pregnancy and the postpartum period, with referrals to psychiatric clinics when necessary. Additionally, we recommend that future Saudi studies on PPD women explore additional factors not covered in this study, such as social support.

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**Authors’ contributions**

Conceptualization: Alshowkan A; Methodology: All authors; Software, Formal analysis: Shdaifat E; Writing–original draft: All authors; Writing–review & editing: All authors.

**Conflict of interest**

The authors declared no conflict of interest.

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**Data availability**

Please contact the corresponding author for data availability.

**Acknowledgments**

None.

**References**


Instructions to Authors

Women’s Health Nursing
Enacted in March 1995 and most recently revised in March 2024 and applied from Vol 30, No 1 (March 2024)

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Women’s Health Nursing is focused on women’s healthy life processes or on conditions relevant to women due to greater risk or prevalence among women. It features original articles and review papers. Manuscripts for submission should be prepared according to the following instructions. The Journal follows the Uniform Requirements for Manuscripts Submitted to Biomedical Journals: Writing and Editing for Biomedical Publication (http://www.icmje.org) if not otherwise described below.

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**Publication of master's thesis or doctoral dissertation:** When thesis or dissertation work is submitted for publication, the first author should be the thesis awardee and should declare that content is from thesis/dissertation.

### 1-3. TRIAL REGISTRATION & DATA SHARING

This journal follows the data sharing policy described in “Data Sharing Statements for Clinical Trials: A Requirement of the International Committee of Medical Journal Editors (ICMJE)” (https://doi.org/10.3346/jkms.2017.32.7.1051). As of July 1, 2018, manuscripts submitted to ICMJE journals that report the results of interventional clinical trials must contain a data sharing statement as described below. Clinical trials that begin enrolling participants on or after January 1, 2019 must include a data sharing plan in the trial’s registration. The ICMJE’s policy regarding trial registration is explained at http://www.icmje.org/about-icmje/faqs/clinical-trials-registration/. Authors of interventional clinical trials are expected to submit the registration number (e.g., CRIS registration number, https://cris.nih.go.kr/) at submission. If the data sharing plan changes after registration this should be reflected in the statement submitted and published with the manuscript, and updated in the registry record. All of the authors of research articles that deal with interventional clinical trials must submit data sharing plan of example 1 to 4 in Table 1. Based on the degree of sharing plan, authors should deposit their data after de-identification and report the digital object identifier (DOI) of the data and the registered site.

#### 1-4. PEER REVIEW PROCESS

All contributions (including solicited articles) are critically reviewed by the editorial board members, and/or reviewers. If the manuscript does not fit the aims and scope of the Journal or does not adhere to the Instructions to Authors, it may be returned to the author immediately after receipt and without a review. Before reviewing, all submitted manuscripts are inspected by Similarity-Check powered by iThenticate (https://www.crossref.org/services/similarity-check/), a plagiarism-screening tool. Reviewers’ comments are usually returned to authors. The decision of the editor is final. Manuscripts are sent simultaneously to two reviewers for double blinded peer review. A third reviewer will be assigned if there is discrepancy. Authors will receive notification of the publication decision, along with copies of the reviews and instructions for revision, if appropriate, within two months after receipt of the submission.

Final revised manuscript: A final version of the accepted manuscript should be submitted on the web. If aspects of the research are reported elsewhere, include a copy of the publication(s). Include all main manuscript material in one file (with exception of title page). Save your file as MS Word. Failure to resubmit the revised manuscript within two weeks of the editorial decision is regarded as a withdrawal and will be treated as a new submission if submitted again later.

**Peer review process for handling submissions from editors, employees, or members of the editorial board:** All manuscripts from editors, employees, or members of the editorial board are processed same to other unsolicited manuscripts. During the review
process, submitters will not engage in the selection of reviewers and decision process. Editors will not handle their own manuscripts if they are commissioned ones.

1-5. COPYRIGHTS AND CREATIVE COMMONS ATTRIBUTION NON-COMMERCIAL LICENSE
The author will also be asked to confirm that the material has not been published or submitted for publication elsewhere. All material published in the Journal will be copyrighted by Korean Society of Women Health Nursing. This is an Open Access journal distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0/) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

1-6. ELECTRONIC SUBMISSION OF MANUSCRIPT
Authors are requested to submit their papers electronically through the online manuscript management system (https://submit.e-whn.org/). Once a manuscript has been submitted, the order and number of authors should not change. Any inquiries on the submitted manuscript should be made to the editorial office.

Please read all instructions before submitting.
Be prepared to enter:
- The full title of the article.
- The full names and institutional affiliations of all authors, and the name (with complete address, phone number, and e-mail) to whom correspondence should be directed.
- A running title of no more than 45 characters (including spaces).
- A structured abstract of no more than 250 words, stating purpose, methods, results (including the sample size), and conclusion drawn from the study.
- Up to five keywords (MeSH terms, in alphabetical order).

1-7. COPYRIGHT TRANSFER FORM AND FORM OF CONFLICTS OF INTEREST
Copyright Transfer Agreement form and form of Conflicts of interest should be submitted online at submission. Manuscripts cannot be published without this form.

Table 1. Examples of data sharing statements that fulfill the requirements of the International Committee of Medical Journal Editors.

<table>
<thead>
<tr>
<th>Element</th>
<th>Example 1</th>
<th>Example 2</th>
<th>Example 3</th>
<th>Example 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will individual participant data be available?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>What data in particular will be shared?</td>
<td>All individual participant data collected during the trial, after deidentification.</td>
<td>Individual participant data that underlie the results reported in this article, after deidentification (text, tables, figures, and appendices).</td>
<td>Individual participant data that underlie the results reported in this article, after deidentification (text, tables, figures, and appendices).</td>
<td>Not available</td>
</tr>
<tr>
<td>What other documents will be available?</td>
<td>Study protocol, statistical analysis plan, informed consent form, clinical study report, analytic code</td>
<td>Study protocol, statistical analysis plan, analytic code</td>
<td>Study protocol</td>
<td>Not available</td>
</tr>
<tr>
<td>When will data be available (start and end dates)?</td>
<td>Immediately following publication. No end date.</td>
<td>Beginning at 3 months and ending at 5 years following the article publication.</td>
<td>Beginning at 9 months and ending at 36 months following the article publication.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>With whom?</td>
<td>Anyone who wishes to access the data.</td>
<td>Researchers who provide a methodologically sound proposal.</td>
<td>Investigators whose proposed use of the data has been approved by an independent review committee (&quot;learned intermediary&quot;) identified for this purpose.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>For what types of analyses?</td>
<td>Any purpose</td>
<td>To achieve aims in the approved proposal.</td>
<td>For individual participant data meta-analysis.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>By what mechanism will data be made available?</td>
<td>Data are available indefinitely at (link to be included).</td>
<td>Proposals should be directed to xxx@yyy. To gain access, data requestors will need to sign a data access agreement.</td>
<td>Proposals may be submitted up to 36 months following article publication. After 36 months the data will be available in our University's data warehouse but without investigator support other than deposited metadata.</td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td>Data are available for 5 years at a third-party website (link to be included).</td>
<td>Information regarding submitting proposals and accessing data may be found at (link to be provided).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1-8. ARTICLE PROCESSING CHARGES AND REPRINTS
Upon acceptance, an article processing charge (APC) of 700 USD (700,000 Korean Won) per article is requested to the corresponding author. Further information can be found at https://www.e-whn.org/authors/processing_charge.php.

1-9. SUBSCRIPTION
The full text is freely available from the website (https://www.e-whn.org/) according to the Creative Commons License (https://creativecommons.org/licenses/by/4.0/). Print copies can be dispatched to members of the Korean Society of Women Health Nursing and libraries worldwide upon the policy of the Society. Those who wish to receive copies and obtain further information should contact the office of the Society (http://www.women-health-nursing.or.kr).

1-10. CONTACT US
Any inquiries regarding suitability of manuscripts according to the aims and scope of the Journal, submission, review, publication, or journal-related issues are welcomed. Please contact the Editorial Office (whn@e-whn.org).

For manuscript submission, please visit: https://submit.e-whn.org

2. Publication Type and Manuscript Preparation

2-1. WRITING MANUSCRIPTS
All manuscripts must be prepared in accordance with the “Uniform Requirements for Manuscripts Submitted to Biomedical Journals” available at http://www.icmje.org. Manuscripts are accepted for publication with the understanding that their contents, or their essential substance, have not been published elsewhere, except in abstract form or by the express consent of the Editors. Materials taken from other sources must be accompanied by written permissions for reproduction, obtained from the original publisher. Statistical methods should be identified. Priority claims are discouraged. All materials must be written in clear, appropriate English using Microsoft Word (doc or docx). Each page must be numbered at the lower central portion. Number pages consecutively. Authors who use AI tools in the writing of a manuscript, production of images or graphical elements of the paper, or in the collection and analysis of data, must be transparent in disclosing (https://publicationethics.org/cope-position-statements/ai-author).

2-2. TITLE PAGE
On the title page include title (only capitalize first letter of the first word); subtitle (if any); running title, first name, middle initial, and last names of each author, ORCiD number (required for all authors), name of department(s) and institution(s) to which the work should be attributed. The address, phone number, and email of the person responsible for correspondence concerning the manuscripts should be listed separately and clearly labeled as such. List keywords and present authors’ contributions, such as the following:

Example 1:
Conceptualization: Piao H, Kim MH; Formal analysis: Piao H, Kim MH, Cui M, Choi G; Writing—original draft: Piao H, Kim MH; Writing—review & editing: Piao H, Choy JH.

Example 2: All work was done by Jeong GH.

Also, describe conflicts of interest, funding, data availability, and acknowledgements (acknowledge only those people and their institutions that have made significant contributions to the study). If applicable, state disclaimers, such as whether manuscript was adapted from thesis/dissertation.

The title page must be submitted separately from the manuscript. A template is available online (https://e-whn.org/authors/authors.php).

2-3. MAIN MANUSCRIPT
Organize the main manuscript in the following order; title, abstract and keywords, summary statement, text, references, tables, figures, and pictures.

Original articles

Abstract and Keywords
An abstract of no more than 250 words should be typed double-spaced on a separate page. It should cover the main factual points, according to the following subheadings: Purpose, Methods, Results, and Conclusion. The abstract should be accompanied by a list of up to five keywords for indexing purposes. Be very specific in your word choice. Use MeSH keywords (https://meshb.nlm.nih.gov/) and present keywords in alphabetical order.

Summary Statement
Following the abstract, describe a summary statement on a sepa-
rate page according to the following subheadings, with 30–40 words under each subtitle.

• What is already known about this topic?
  Example: The 75 years and older age group, with its complex health needs, is likely to make up an increasing proportion of the workload of accident and emergency strain the coming years.

• What this paper adds
  Example: An alcohol-based surgical hand rub is more effective than a 6-minute surgical hand scrub using 4% chlorhexidine gluconate in terms of microbial counts immediately after scrubbing.

• Implications for practice, education and/or policy
  Example: Parents’ ability and willingness to participate in their child's care in the hospital should be thoroughly assessed and their participation needs to be supported.

Main Text
Maximum word count should be within 5,000 words, although less is preferred, excluding tables, figures, and references. The manuscript should be written on A4 sized paper, in Times New Roman 12-point font, double-spaced and have margins of at least one inch (2.54 cm). In general, the text should be organized under the following headings: Introduction, Methods, Results, and Discussion.

Introduction: Clearly state the need of this study and main question or hypothesis of this study. Summarize the literature review or background in the area of the study.

Methods: Present an “Ethics statement” immediately after the heading “Methods” in a boxed format.

Example 1:

**Ethics statement:** This study was approved by the Institutional Review Board of XXXX University (201903-0002-01). Informed consent was obtained from the participants.

Example 2:

**Ethics statement:** Obtaining informed consent was exempted by the Institutional Review Board of YYYY University (201903-0002-01) because there was no sensitive information and the survey was anonymously treated.

Describe the study design, setting and samples, and measurements, procedure, analysis used. Authors are encouraged to describe the study according to the reporting guidelines relevant to their specific research design and are required to submit the appropriate checklist. Authors can refer to those outlined by the EQUATOR Network (http://www.equator-network.org/home/) and the United States National Institutes of Health/National Library of Medicine (http://www.nlm.nih.gov/services/research_report_guide.html).

Ensure correct use of the terms sex (when reporting biological factors) and gender (identity, psychosocial or cultural factors), and, unless inappropriate, report the sex or gender of study participants, the sex of animals or cells, and describe the methods used to determine sex or gender. If the study was done involving an exclusive population, for example in only one sex, authors should justify why, except in obvious cases (e.g., ovarian cancer). Authors should define how they determined race or ethnicity and justify their relevance.

Results: Describe the main results in a concise paragraph. This section should be the most descriptive. Note levels of statistical significance and confidence intervals where appropriate.

Discussion: Make discussions based only on the reported results. Describe conclusions and recommendations for further study needed. Do not summarize the study results.

Abbreviations: Use standard abbreviations and units recommended in the publication manual of the NLM Style Guide for Authors, Editors, and Publishers (2007), 2nd ed., National Library of Medicine, Bethesda, MD, USA (http://www.nlm.nih.gov/citingmedicine). Non-standard abbreviations should be defined the first time they appear in the text. At first usage, spell out terms and give abbreviations in parentheses. Thereafter, use only abbreviations. It is not necessary to spell out standard units of measure, even at first usage.

Review article
An invited review will be published on an interesting or a new topic. Also submitted reviews are welcomed on any field according to the aims and scope, including systematic review and meta-analysis, scoping reviews, and integrative reviews. The main text is composed of introduction, methods, results, and discussion. There is no limit to the total number of references for a review article. The word count for the main text should be within 8,000 words.

Invited paper
It is a commissioned article for specific purpose only with request base. The topics were discussed between editors and authors be-
fore submission. The main text is composed of 3 sections: introduction, text, and conclusion. The total number of references article is recommended to be equal to or less than 30. The word count for the main text should be within 8,000. An abstract is optional and is limited to 250 words.

**Issues and perspectives**
Issues and Perspectives is usually an invited short article, which deals with the present hot issues in women's health nursing, although not limited to this field. Authors of general interest to nursing and health care are also invited. Its format consists of introduction, main content, and conclusion. Length of the main text is limited to 2,000 words and keywords are limited to 5, preferably in MeSH terms. Number of references is limited to 20 and figures and tables are limited to 10 in total.

**Special essay**
It is a commissioned publication type for the presentation of experiences in nursing or health field. Authors are invited by the editor-in-chief. Topics are discussed upon request. There is no specific format.

**Editorials**
An editorial is usually invited by the Editorial Board. It provides the brief review and comments on pressing developments and events in the field of women's health nursing. It also may deal with a change in the journal's style and format and communication with an outside organization or professional. Other various topics shall be dealt by the Editorial Board as deemed appropriate. Divisions in the body of an editorial are not required. The total number of references is recommended to be equal to or less than 10. The word count of the main text should be less than 2,500 words.

**Letter to the editor**
Any opinion or inquiry on a paper published can be addressed to the editor. Title, author, affiliation, main text and the references are the required sections. The total number of references is recommended to be less than 10. The word count of main text should be equal to or less than 1,000 words.

**In reply**
As the reply to “Letter to the editor” its format is same to the “Letter to the editorial” and will be published simultaneously.

**2-4. References**
In the text, references should be cited with Arabic numerals in brackets (e.g. [1]), numbered in the order cited.

In the references section, the references should be numbered in order of appearance in the text and listed in English citation form. Journal titles should be described in NLM style.

References within the last 5 years are encouraged, and un-published PhD or master's thesis are not recommended as reference.

Other types of references not described below should follow the NLM Style Guide for Authors, Editors, and Publishers (http://www.nlm.nih.gov/citingmedicine). There are no limits to the number of references. However, limit supporting citations in text to 1-2 per statement. Note the DOI in URL form, if available.

**Journal article with up to six authors:**

**Journal article with more than six authors:**

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**Table 2. Recommended maximums for articles submitted to the Women’s Health Nursing**

<table>
<thead>
<tr>
<th>Publication type</th>
<th>Abstract (word count)</th>
<th>Text (word count)¹</th>
<th>References</th>
<th>Tables &amp; figures</th>
<th>Invited or unsolicited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original articles</td>
<td>250</td>
<td>5,000</td>
<td>No limit</td>
<td>6</td>
<td>Unsolicited</td>
</tr>
<tr>
<td>Review articles</td>
<td>250</td>
<td>8,000</td>
<td>No limit</td>
<td>6</td>
<td>Invited or unsolicited</td>
</tr>
<tr>
<td>Invited papers</td>
<td>Optional (250)</td>
<td>8,000</td>
<td>30</td>
<td>10</td>
<td>Invited</td>
</tr>
<tr>
<td>Issues and Perspectives</td>
<td>None</td>
<td>2,000</td>
<td>20</td>
<td>10</td>
<td>Invited</td>
</tr>
<tr>
<td>Special essays</td>
<td>None</td>
<td>3,000</td>
<td>20</td>
<td>10</td>
<td>Invited</td>
</tr>
<tr>
<td>Editorials</td>
<td>None</td>
<td>2,500</td>
<td>10</td>
<td>5</td>
<td>Invited</td>
</tr>
<tr>
<td>Letter to the editor</td>
<td>None</td>
<td>1,000</td>
<td>10</td>
<td>3</td>
<td>Unsolicited</td>
</tr>
<tr>
<td>In reply</td>
<td>None</td>
<td>1,000</td>
<td>10</td>
<td>3</td>
<td>Invited</td>
</tr>
</tbody>
</table>

¹Maximum number of words excludes the abstract, references, tables, and figure legends

Above limitations are negotiable. If more word count or number of figures and tables are required, authors can contact the editor-in-chief.

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**Unpublished thesis or dissertation:** Chang YE. The analysis of the association factors which influence on the breast and cervix cancer screening in Korean women: Based on the 2005 Korean national examination health and nutrition survey [master's thesis]. Seoul: Korea University; 2010. 55 p.


2-5. **Tables/Figures/Pictures**

Each table, figure, and picture should be placed on a separate sheet, at the end of the manuscript. Tables should be submitted in Word format. Number tables consecutively and supply a brief title at the top for each. Footnotes to tables should be indicated by superscript symbols (†, §, ¶, ††, ‡‡) unless abbreviations are explained in which case superscripts are not required. All abbreviations used should be described in table footnote by writing the abbreviation followed by colon sign and definition, placed in alphabetical order.

Tables and figures are printed only when they express more than can be done by words in the same amount of space.

Do NOT indicate placement of tables of figures in the text. The editor will automatically place your tables and figures.

3. **How The Journal Handles Complaints and Appeals**

The policy of *Women’s Health Nursing* is primarily aimed at protecting the authors, reviewers, editors, and the publisher of the journal. If not described below, the process of handling complaints and appeals follows the COPE guidelines available from: https://publicationethics.org/appeals

**Who complains or makes an appeal?**

Submitters, authors, reviewers, and readers may register complaints and appeals in a variety of cases as follows: Falsification, fabrication, plagiarism, duplicate publication, authorship dispute, conflicts of interest, ethical treatment of animals, informed consent, bias or unfair/inappropriate competitive acts, copyright, stolen data, defamation, and legal problem. If any individuals or institutions want to inform the cases, they can send a letter via the contact page on our website (https://e-whn.org/about/contact.php). For the complaints or appeals, concrete data with answers to all factual questions (who, when, where, what, how, why) should be provided.

**Who is responsible for resolving and handling complaints and appeals?**

The Editor, Editorial Board, or Editorial Office is responsible for them. A legal consultant or ethics editor may be able to help with decision making.

**What may be the consequence of the remedy?**

It depends on the type or degree of misconduct. The consequence of resolution will follow the guidelines of COPE.

4. **Direct Marketing**

Journal propagation has been done through the journal website and distribution of an introduction pamphlet. Invitations to submit a manuscript are usually focused on the presenters at conferences, seminars, or workshops if the topic is related to the journal’s aims and scope.
Research and Publication Ethics

For the policies on research and publication ethics that are not stated in these instructions, the Good Publication Practice Guidelines for Medical Journals (https://www.kamje.or.kr/board/view?b_name=bo_publication&bo_id=13&per_page=) or the Guidelines on Good Publication Practice (https://publicationethics.org/guidance/Guidelines) can be applied.

1. Conflict-of-interests Statement

Authors are required to disclose commercial or similar relationships to products or companies mentioned in or related to the subject matter of the article being submitted. Sources of funding for the article should be acknowledged in a footnote on the title page. Affiliations of authors should include corporate appointments relating to or in connection with products or companies mentioned in the article, or otherwise bearing on the subject matter thereof. Other pertinent financial relationships, such as consultancies, stock ownership or other equity interests, or patent-licensing arrangements should be disclosed to the Editor-in-Chief in the cover letter at the time of submission. Such relationships may be disclosed in the Journal at the discretion of the Editor-in-Chief in footnotes appearing on the title page. Questions about this policy should be directed to the Editor-in-Chief. If there is no conflict of interest, this should also be explicitly stated as "The author(s) declared no conflicts of interest."

2. Statement of Human and Animal Rights

Clinical research should be done in accordance with the Ethical Principles for Medical Research Involving Human Subjects, outlined in the Declaration of Helsinki (https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/). Clinical studies that do not meet the Declaration of Helsinki will not be considered for publication. Research participants' rights to privacy must be protected, and personal identifiable information should not be disclosed unless absolutely necessary. Human subjects should not be identifiable, i.e., patients' names, initials, hospital numbers, dates of birth, photographs, or other protected healthcare information should not be disclosed. If such personal information is needed as scientific data for publication, this should be explained to participants (or legal guardians) and written consent must be obtained. The possibility of online information sharing (not only printed publications) must also be explained. For animal subjects, research should be performed based on the National or Institutional Guide for the Care and Use of Laboratory Animals, and the ethical treatment of all experimental animals should be maintained. For studies using literature review and meta-analysis, Institutional Review Board (IRB) approval is not required. For secondary data analysis studies, the editorial committee will decide whether IRB approval is needed.

3. Statement of Informed Consent

Copies of written informed consents and IRB approval for clinical research should be kept. If necessary, the editor or reviewers may request copies of these documents to resolve questions about IRB approval and study conduct.

4. Authorship

All authors, including the co-authors, should be responsible for a significant part of the manuscript. All authors and co-authors should have taken part in writing the manuscript, reviewing it, and revising its intellectual and technical content. Any author whose name appears on a paper assumes responsibility and accountability for the results. Artificial intelligence (AI) tools cannot be listed as an author of a paper.

5. Originality and Duplicate Publication

All submitted manuscripts should be original and should not be considered by other scientific journals for publication at the same time. Manuscripts are accepted for publication with the understanding that their contents, or their essential substance, have not been published elsewhere, except in abstract form or by the express consent of the Editors. Any part of the accepted manuscript should not be duplicated in any other scientific journal without the permission of the Editorial Board. The duplication will be checked through SimilarityCheck powered by iThenticate (https://www.crossref.org/services/similarity-check/) before review. If duplicate publication related to the papers of this journal is detected, the authors will be announced in the journal and their institutes will be informed, and there also will be penalties for the authors.
Materials taken from other sources must be accompanied by written permissions for reproduction, obtained from the original publisher. Editors should follow the procedure set out in the Committee on Publication Ethics (COPE) flowcharts (https://publicationethics.org/resources/flowcharts-new/translations) that are designed to help editors follow COPE's Code of Conduct and implement its advice when faced with cases of suspected misconduct.

6. Secondary Publication

It is possible to republish manuscripts if the manuscripts satisfy the condition of secondary publication of the Uniform Requirements for Manuscripts Submitted to Biomedical Journals (http://www.icmje.org).

7. Publication of Master's Thesis or Doctoral Dissertation

When thesis or dissertation work is submitted for publication, the first author should be the thesis awardee and should declare that content is from thesis/dissertation.
Author’s Checklist

☐ This manuscript has not been submitted for publication elsewhere and follows the Publication and Research Ethics of the Women’s Health Nursing.

Title page
☐ Please follow the title page template available online

Manuscript preparation
☐ A4, 12 point font Times New Roman in MS Word file
☐ Line space: Double spacing / Margins of at least 1 inch (2.5 cm)
☐ Within 5,000 words (excluding figures, tables, references)
☐ Author information is removed

Abstract
☐ 250 words or less (240-250 words are suggested)
☐ Subheadings of Purpose, Methods, Results, and Conclusion
☐ Keywords: Up to 5 keywords, MeSH terms (www.nlm.nih.gov/mesh/MBrowser.html) preferred. List in alphabetical order.

Summary Statement
☐ 30–40 words under each subtitle

Main Text
☐ Subheadings of Introduction, Methods, Results, and Discussion
☐ Permission to use instruments should have been obtained
☐ Specify Ethics statement under Methods subheading. Avoid redundant descriptions in the text
☐ Appropriate reporting guideline is noted in 'study design' section, Checklist is submitted.

References
☐ References follow NLM style
☐ Limit supporting references to 1-2 per statement

Table, figure, and picture
☐ No more than 6 figures, tables, and pictures altogether, Tables should be submitted in MS Word format.
☐ According to Instructions to Authors
☐ Abbreviations are noted under the table, in alphabetical order, and are congruent with text descriptions

https://e-wn.org
Copyright Transfer Agreement

Title: ____________________________________________

I hereby certify that I agreed to submit the manuscript entitled as above to Women's Health Nursing with the following statements:

- This manuscript is original and there is no copyright problem, defamation and privacy intrusion. Any legal or ethical damage should not be directed to the Korean Society of Women Health Nursing due to this manuscript.
- All authors contributed to this manuscript actually and intellectually and have responsibility equally to this manuscript.
- This manuscript was not published or considered for publication to any other scientific journals in the world. It will not be submitted again to other journals without permission from Editor of Women's Health Nursing if it is accepted for publication.
- Copyright of this manuscript shall be transferred to the Korean Society of Women Health Nursing if it is published in Women's Health Nursing. It means that if any persons including authors want to use the contents of this manuscript, they should cite the source and can use it for educational and research purpose according to Creative Commons Attribution License.
- All authors have provided a signature for copyright transfer agreement on this manuscript.

Conflict of Interest Disclosure Statement
List any potential conflicts of interests of this manuscript (any financial support or benefits have been received by the author(s) that could affect the work reported in the article) or indicate “The author(s) declared no conflict of interest.”

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https://e-whn.org