ΠΑΝΕΠΙΣΤΗΜΙΟ ΔΥΤΙΚΗΣ ΑΤΤΙΚΗΣ
ΣΧΟΛΗ ΕΠΙΣΤΗΜΩΝ ΥΓΕΙΑΣ & ΠΡΟΝΟΙΑΣ
ΤΜΗΜΑ ΜΑΙΕΥΤΙΚΗΣ
ΠΡΟΓΡΑΜΜΑ ΜΕΤΑΠΤΥΧΙΑΚΩΝ ΣΠΟΥΔΩΝ:
ΠΡΟΗΓΜΕΝΗ ΚΑΙ ΤΕΚΜΗΡΙΩΜΕΝΗ ΜΑΙΕΥΤΙΚΗ ΦΡΟΝΤΙΔΑ

Μεταπτυχιακή Διπλωματική Εργασία

ΕΚΤΙΜΗΣΗ ΤΗΣ ΠΟΙΟΤΗΤΑΣ ΤΩΝ ΜΑΙΕΥΤΙΚΩΝ ΥΠΗΡΕΣΙΩΝ ΚΑΤΑ ΤΗΝ ΠΕΡΙΟΔΟ ΜΕΤΑ ΤΟΝ ΤΟΚΕΤΟ ΣΤΗΝ ΕΛΛΑΔΑ: ΜΙΑ ΣΥΓΧΡΟΝΙΚΗ ΜΕΛΕΤΗ ΕΡΩΤΗΜΑΤΟΛΟΓΙΟΥ ΑΠΟ ΤΗ ΣΚΟΠΙΑ ΤΩΝ ΑΣΘΕΝΩΝ

Συγγραφέας:
Κόσιβα Αλεξάνδρα
(ΑΜ: 21027)

Επιβλέπων/ουσα:
Αικατερίνη Λυκερίδου

Αθήνα, Οκτώβριος 2023

UNIVERSITY OF WEST ATTICA
FACULTY OF HEALTH & CARE SCIENCES
DEPARTMENT OF MIDWIFERY
POSTGRADUATE PROGRAM (MSc):
ADVANCED AND EVIDENCE-BASED MIDWIFERY CARE

Diploma Thesis

QUALITY ASSESSMENT OF POSTPARTUM MIDWIFERY CARE IN GREECE: A CROSS-SECTIONAL, QUESTIONNAIRE STUDY BASED ON PATIENTS' PERSPECTIVES

Author:
Alexandra Kosiva
(RN: 21027)

Supervisor:
Aikaterini Lykeridou

Athens, October 2023

ΠΑΝΕΠΙΣΤΗΜΙΟ ΔΥΤΙΚΗΣ ΑΤΤΙΚΗΣ
ΣΧΟΛΗ ΕΠΙΣΤΗΜΩΝ ΥΓΕΙΑΣ & ΠΡΟΝΟΙΑΣ
ΤΜΗΜΑ ΜΑΙΕΥΤΙΚΗΣ
ΠΡΟΓΡΑΜΜΑ ΜΕΤΑΠΤΥΧΙΑΚΩΝ ΣΠΟΥΔΩΝ: ΠΡΟΗΓΜΕΝΗ ΚΑΙ ΤΕΚΜΗΡΙΩΜΕΝΗ ΜΑΙΕΥΤΙΚΗ ΦΡΟΝΤΙΔΑ

ΕΚΤΙΜΗΣΗ ΤΗΣ ΠΟΙΟΤΗΤΑΣ ΤΩΝ ΜΑΙΕΥΤΙΚΩΝ ΥΠΗΡΕΣΙΩΝ ΚΑΤΑ ΤΗΝ ΠΕΡΙΟΔΟ ΜΕΤΑ ΤΟΝ ΤΟΚΕΤΟ ΣΤΗΝ ΕΛΛΑΔΑ: ΜΙΑ ΣΥΓΧΡΟΝΙΚΗ ΜΕΛΕΤΗ ΕΡΩΤΗΜΑΤΟΛΟΓΙΟΥ ΑΠΟ ΤΗ ΣΚΟΠΙΑ ΤΩΝ ΑΣΘΕΝΩΝ

Μέλη Εξεταστικής Επιτροπής συμπεριλαμβανομένου και του Εισηγητή

Η μεταπτυχιακή διπλωματική εργασία εξετάστηκε επιτυχώς από την κάτωθι Εξεταστική Επιτροπή:

Α/α	ΟΝΟΜΑ ΕΠΩΝΥΜΟ	ΒΑΘΜΙΔΑ/ΙΔΙΟΤΗΤΑ	ΨΗΦΙΑΚΗ ΥΠΟΓΡΑΦΗ
1	Αικατερίνη Λυκερίδου	Καθηγήτρια	Aikaterini Lykeridou Avramioti Digitally signed by Aikaterini Avramioti Date: 2023.11.29 19:39:50 +02'00'
2	Βικτώρια Βιβιλάκη	Αναπληρώτρια Καθηγήτρια	Viktoria Vivilaki Digitally signed by Viktoria Vivilaki Date: 2023.12.04 10:03:58 +02'00'
3	Αντιγόνη Σαραντάκη	Αναπληρώτρια Καθηγήτρια	Antigoni Sarantaki Digitally signed by Antigoni Sarantaki Date: 2023.12.06 23:37:34 +02'00'

ΔΗΛΩΣΗ ΣΥΓΓΡΑΦΕΑ ΜΕΤΑΠΤΥΧΙΑΚΗΣ ΕΡΓΑΣΙΑΣ

Η κάτωθι υπογεγραμμένη Κόσιβα Αλεξάνδρα του Νικολάου, με αριθμό μητρώου 21027 φοιτήτρια του Προγράμματος Μεταπτυχιακών Σπουδών «ΠΡΟΗΓΜΕΝΗ ΚΑΙ ΤΕΚΜΗΡΙΩΜΕΝΗ ΜΑΙΕΥΤΙΚΗ ΦΡΟΝΤΙΔΑ» του Τμήματος Μαιευτικής της Σχολής Επιστημών Υγείας & Πρόνοιας του Πανεπιστημίου Δυτικής Αττικής, δηλώνω ότι:

«Είμαι συγγραφέας αυτής της μεταπτυχιακής εργασίας και ότι κάθε βοήθεια την οποία είχα για την προετοιμασία της, είναι πλήρως αναγνωρισμένη και αναφέρεται στην εργασία. Επίσης, οι όποιες πηγές από τις οποίες έκανα χρήση δεδομένων, ιδεών ή λέξεων, είτε ακριβώς είτε παραφρασμένες, αναφέρονται στο σύνολό τους, με πλήρη αναφορά στους συγγραφείς, τον εκδοτικό οίκο ή το περιοδικό, συμπεριλαμβανομένων και των πηγών που ενδεχομένως χρησιμοποιήθηκαν από το διαδίκτυο. Επίσης, βεβαιώνω ότι αυτή η εργασία έχει συγγραφεί από μένα αποκλειστικά και αποτελεί προϊόν πνευματικής ιδιοκτησίας τόσο δικής μου, όσο και του Ιδρύματος.

Παράβαση της ανωτέρω ακαδημαϊκής μου ευθύνης αποτελεί ουσιώδη λόγο για την ανάκληση του πτυχίου μου».

Η Δηλούσα

Κόσιβα Αλεξάνδρα

Contents

1. Abstracts

1.1 Abstract in Greek (περίληψη)

Εισαγωγή:

Η ρόλος της μαίας είναι καθοριστικός και αποτελεί δεσπόζον και αναπόσπαστο τμήμα της φροντίδας της εγκύου καθόλη τη διάρκεια της εγκυμοσύνης, του τοκετού αλλά και κατά την περίοδο μετά τον τοκετό. Ιδιαίτερης σημασίας και ενδιαφέροντος στη διεθνή βιβλιογραφία αποτελεί η φροντίδα μετά τον τοκετό, καθώς αυτή είναι που συνεισφέρει στο σημαντικότερο βαθμό στη μεγάλη μετάβαση στη μητρότητα, ιδιαίτερα για τις πρωτοτόκες. Στην Ελλάδα, η ποιότητα αυτών των σημαντικότατων υπηρεσιών, σύμφωνα με εμπειρικές παρατηρήσεις, δυστυχώς είναι αισθητά μειωμένη, φαινόμενο στο οποίο επίσης συνεισέφεραν η οικονομική και η πιο πρόσφατη υγειονομική κρίση.

Σκοπός:

Ο σκοπός της παρούσας μελέτης είναι να συλλέξει πληροφορίες με βάση την αξιολόγηση των μαιευτικών υπηρεσιών μετά τον τοκετό από τις ίδιες τις ασθενείς, να προσδιορίσει τυχόν χαρακτηριστικά των ασθενών που ενδεχομένως επηρεάζουν το αποτέλεσμα της αξιολόγησης, να προσδιορίσει υποομάδες ασθενών που χρειάζονται ιδιαίτερη προσοχή κατά τη φροντίδα μετά τον τοκετό και να αναγνωρίσει τους κύριους τομείς στους οποίους χρειάζεται βελτίωση των παρεχόμενων υπηρεσιών.

Μέθοδοι:

Για την αξιολόγηση των παρεχόμενων υπηρεσιών, το επικυρωμένο ερωτηματολόγιο MMAYpostpartum χορηγήθηκε σε 356 μητέρες οι οποίες έπρεπε να είχαν γεννήσει σε εξειδικευμένη δομή παροχής μαιευτικών υπηρεσιών (όχι στην οικία τους) εντός της προηγούμενης τριετίας. Τα δεδομένα συλλέχθηκαν είτε με έντυπα ερωτηματολόγια, είτε μέσω ηλεκτρονικής υποβολής στην πλατφόρμα Google Forms. Η στατιστική επεξεργασία των δεδομένων διεξήχθη με τη χρήση του λογισμικού στατιστικής ανάλυσης SPSS.

Αποτελέσματα:

Συνολικά, δεδομένα από 204 ασθενείς συμπεριλήφθηκαν στην ανάλυση. Η μέση ηλικία των συμμετεχουσών ήταν τα 35,5 έτη και ο μέσος Δείκτης Μάζας Σώματος ήταν 23,5. Η συνολική βαθμολογία που δόθηκε από τις ασθενείς κατά την αξιολόγηση της ποιότητας των μαιευτικών υπηρεσιών ήταν χαμηλότερη από αυτή που αναφερόταν στη βιβλιογραφία. Από την εξέταση της επίδρασης των βασικών χαρακτηριστικών των ασθενών στην τελική βαθμολογία, βρέθηκε πως η αυξημένη ηλικία της μητέρας, η περίθαλψη σε δημόσιες μονάδες μαιευτικής φροντίδας και η νοσηλεία κατά τη διάρκεια της κύησης είχαν ανεξάρτητη, στατιστικά σημαντική συσχέτιση με χαμηλότερη βαθμολογία. Άλλες βασικές παράμετροι των ασθενών δεν είχαν κάποια στατιστικά σημαντική επίδραση στην τελική βαθμολογία.

Συμπεράσματα:
Η λήψη φροντίδας μετά τον τοκετό σε δημόσιες δομές, η προχωρημένη ηλικία της μητέρας και το ιστορικό νοσηλείας κατά τη διάρκεια της κύησης είχαν στατιστικά σημαντικό αντίκτυπο στην υποκειμενική αξιολόγηση των μαιευτικών υπηρεσιών από τις ασθενείς. Έτσι, ασθενείς με αυτά τα χαρακτηριστικά αποτελούν ευαίσθητες υποομάδες του συνολικού πληθυσμού μητέρων κατά την περίοδο μετά τον τοκετό, οι οποίες ενδεχομένως θα ωφελούνταν από αυξημένη προσοχή και παροχή επιπλέον φροντίδας από το μαιευτικό προσωπικό, σε περιπτώσεις που καθολική βελτίωση δεν είναι εφικτή. Περισσότερες μελέτες πάνω σε αυτό το θέμα χρειάζονται για να επιβεβαιώσουν αυτές της παρατηρήσεις αλλά ενδεχομένως και να τις εφαρμόσουν δοκιμαστικά σε πραγματικό κλινικό πλαίσιο.

Λέξεις κλειδιά: συγχρονική μελέτη, φροντίδα μετά τον τοκετό, μαιευτική φροντίδα, μελέτη ερωτηματολογίου, αξιολόγηση από ασθενείς

1.2 Abstract in English

Introduction:
Midwives play a decisive role in the care of women during pregnancy, labor and postpartum care, with their contribution being a vital and indispensable part throughout. Postpartum care is of considerable interest in particular in international literature, as it is the period that plays the most decisive role in the transition to motherhood, most notably for primiparous women. The quality of those vital services during the postpartum period has been in decline in Greece, as has been noted by empirical evidence and clinical experience, a decline to which the economic and more recently the healthcare crisis have contributed significantly.

Objective:
The objective of the current study is to collect data based on the assessment of postpartum midwifery care by the women, to identify any baseline characteristics which may affect said assessment, to define any particular women subgroups who would most benefit from a more individualized and attentive approach in postpartum care and to highlight the primary components of postpartum care that most require improvement.

Methods:
In order to assess the quality of postpartum midwifery services, the validated MMAYpostpartum questionnaire was utilized. The questionnaire was distributed to 356 mothers, who had delivered in a specialized midwifery care center (not at home), within the past three years. Data was collected either with printed questionnaires, or digitally via the Google Forms platform. Statistical calculations were conducted using the SPSS statistical processing software.

Results:
In total, data from 204 participants were included in the analysis. Participant mean age was 35.5 years and mean Body Mass Index was 23.5. Overall, the average recorded scores for midwifery care quality were lower from those reported in the literature. When the impact of certain baseline parameters was assessed, older maternal age, delivery at a public healthcare center and hospitalization during pregnancy, were all found to be independently correlated with significantly lower scores. Other baseline participant characteristics were not found to exert any statistically significant effect on ultimate quality of care score.

Conclusions:
Postpartum care in public centers, older maternal age and hospitalization during pregnancy had a statistically significant negative impact on perceived quality of midwifery care. Therefore, women with the aforementioned characteristics may constitute vulnerable subgroups of mothers during the postpartum period, who would potentially be the ones to most benefit from increased awareness of the midwifery staff and provision of additional services, should universal improvement of midwifery care be unfeasible. Additional studies on this topic are warranted in order to confirm these observations and test them in a real, clinical setting.

Keywords: cross-sectional study, questionnaire based study, postpartum female care, midwifery services, patient feedback

2. General part

2.1 General introduction

Pregnancy and childbirth constitute significant milestones in the lives of most women worldwide and they have substantial effects on almost every aspect of their personality and outlook. From a psychological point of view, childbirth greatly affects the mother's identity as a woman, since she needs to mature and adapt to her new role as a mother, or to the introduction of a an additional member to her family if she has already had children before. From a social point of view, the arrival of the newborn greatly impacts the woman's social life and her relationships with her partner, familial and general social surroundings [1]. From a cultural point of view, the implication of childbirth and the way it was performed may vary depending on religious or moral beliefs and principles held by the mother or her family and the wider society at the region. All these aspects are compounded by the financial ramifications, positive and negative, of bringing a new child to the world, along with potentially a few medical considerations, such as congenital fetal abnormalities or obstetrical complications, which greatly affect the woman's outlook on pregnancy and childbirth [1, 2].
The aforementioned aspects of childbirth and the potential effects on the woman's life are most frequently considered and acted upon after childbirth, in the postpartum period, since that is the point when this important

transition to the new role of the woman has been made [3]. In cases where other concomitant factors, such as underlying psychiatric disorders, financial difficulties, adverse social circumstances etc, also exist, they may further exacerbate this difficult transitional period and multiply its effect on the woman's physical and psychological well-being [2, 3]. Additionally, in most modern maternity care systems, more emphasis is placed on the physical and psychiatric well-being of the mother, with her need for education and support in her new role and this role's ramifications on her life being unfortunately ignored [3]. This sole focus on the woman's immediate medical and psychiatric needs by modern healthcare systems has become even more narrow in countries that lack the financial and human resources to support a more over-encompassing, comprehensive and robust system. Unfortunately nowadays, Greece is also counted amongst such countries, since the effects of the economic crisis and the more recent healthcare crisis due to the COVID-19 pandemic have greatly reduced the available resources [4, 5]. This situation mandates the strict and utilitarian allocation of the scarce resources available and thus does not permit the in-depth assessment and provision of adequate education and support to the woman during the post-partum period.

In these harsh conditions, the role of the midwife as a source of accurate education, practical advice and emotional support to these women is further accentuated. As highly trained and specialized professionals, midwives possess the knowledge and expertise to care for the pregnant woman throughout her pregnancy and more importantly during the postpartum period. They have the capacity to recommend preventative measures, offer specific advice, significantly assist with patient monitoring, stay vigilant for unexpected complications and provide basic medical care for the mother and her newborn [6, 7]. Additionally, the role of midwives could extend beyond the coverage of the basic medical needs of the woman and her child and it could encompass the wider familial and social background; through education and support to both parents in preparation for the responsibilities and the unavoidable changes in their life that come with a new child, especially for primiparous women [8].

In light of all the above, the first, general part of this thesis will delve deeper into the challenges of postpartum care, how they are managed within the current healthcare system, along with challenges faced both within Greece and internationally, as well as the particular role of the midwife within this complex model of care. The second, specific part of this thesis is a cross-sectional study conducted in Greece in order to assess how postpartum patients perceive the quality of midwifery services and care they receive, identify limitations of the current system, locate particularly vulnerable patient subgroups and suggest targeted interventions to improve postpartum care standards. A scientific article based on this thesis has been peer-reviewed, accepted and published in an international Medical Journal [9].

2.2 The postpartum period

The postpartum period, a period of roughly 6 weeks after delivery, is a critical part of the life of the mother and her newborn. The postpartum period can be divided into three separate but continuous sub-phases [10]. The first phase is the acute phase, occurring during the first hours after delivery. This is the most dynamic and dangerous phase, as it has been associated with the most severe post-partum complications that could occur, such as post-partum hemorrhage, uterine inversion, amniotic fluid embolism, eclampsia and many more [10]. This phase also carries the greatest risk to the mother's and newborn's life, as it is the phase characterized by the highest maternal mortality rates [10, 11]. The second phase of the postpartum period is known as a sub-acute phase and may last up to six weeks after delivery. While not as critical a phase for the mother's life as the acute phase, the second phase does come with large-scale physiological changes to the woman's body, including cardiovascular and hemodynamic, genitourinary, metabolic and psychological changes and recovery from pregnancy and delivery [10]. While these changes are not as rapid as those experienced during the acute phase and the woman is mostly able to self-identify any issues, this period is nonetheless associated with complications of varying severity, from mild discomfort to severe conditions [10]. Such complications may include, but are not limited to: secondary postpartum hemorrhage, thromboembolic disease, thyroid disorders, urinary incontinence, hemorrhoids, and constipation [12, 13].

Concomitant psychological disorders of varying severity are not uncommon during this phase as well, with postpartum depression and psychosis representing the most prominent and dangerous ones [12, 14]. However, even if a complete psychiatric condition does not fully manifest, it has been reported that women experience a wide variety of psychological disturbances and difficulties during the postpartum period and the provision of accurate information and emotional support by the healthcare professional is vital in order to identify, prevent and treat such disorders [14]. Finally, the final phase of the postpartum period may last up to 6 months after delivery and is a period of slow and gradual changes, during which manifestations of pathologic conditions are very rare [10, 14].

In addition to the aforementioned physical and psychological conditions that must be taken into consideration when caring for the mother during the postpartum period, one should not forget that these may be further exacerbated when social issues are also present [15]. Since childbirth has a profound effect not only on the woman herself but also on her social environment [1], the presence of social issues such as domestic violence or substance abuse greatly complicates the role of the postpartum caregivers. This complexity rises from the fact that such are not reliably and reproducibly diagnosable, despite the development of specific tools and the proper training of medical staff [15]. Additionally, targeted intervention in such cases has shown inconsistent results, causing more harm than benefit in certain studies, with experts advising that the quality of available evidence is too low to make proper recommendations and evidence-based guidelines [15].

Overall, the postpartum period is a challenging transitional phase that entails several physical, psychological and even social risks for the mother and her newborn. During such a phase, provision of proper, vigilant physio-psychological monitoring, continuous assessment and emotional support is vital to ensure the safety and well-being of both the mother and her child [13, 16]. In order for these principles to be put in practice, specialized and dedicated healthcare workers are required, supported by a strong and well-organized healthcare system.

2.3 Postpartum healthcare services: status quo and challenges

Nowadays, in most countries worldwide, regardless of socioeconomic status, healthcare systems or, in their absence, at least certain measures have been put in place to provide the necessary monitoring and care to pregnant women throughout their pregnancy and up to delivery and the postpartum period. While in most contexts, ante-partum and intra-partum care are highly emphasized and receive adequate resources and attention by the system, postpartum care does not always receive the same priority and attention, particularly the late postpartum period [17].

This is quite problematic, as the burden of postpartum morbidity and mortality for both mothers and infants remains high, with up to 30% of maternal deaths occurring during the postpartum period and with 17 out of 1000 infants dying within their first month of life, according to worldwide estimates in 2019 [18, 19]. This has been demonstrated internationally, as length of stay in the healthcare facility after delivery varies significantly worldwide, highlighting the lack of an international standard of care, while the quality of care even within the first 24 hours postpartum is inadequate for a very substantial number of women and newborns the world over [20]. Furthermore, it has been estimated that even the minimum, routine postpartum care for two days after delivery in a specialized healthcare center is still not provided internationally, with approximately 30% of women and 35% of neonates worldwide not receiving even this, most basic, standard of postpartum care [21].

The aforementioned disparities in the type, availability and quality of postpartum care services worldwide are quite problematic, given the importance of the postpartum period for the physical and mental well-being of the mother and child, leading to many advocating for the need of a more attentive and patient-centered approach by the healthcare system [17, 22]. This led to the World Health Organization (WHO) publishing official, global recommendations in 2022 for proper postpartum care for the mother and newborn, in an attempt to standardize postpartum care and ensure a safe, positive and high quality experience for the woman, entitled: “WHO recommendations on maternal and newborn care for a positive postnatal experience” [23]. These guidelines provide comprehensive, evidence-based instructions on the prevention and treatment of several common

physical and psychological conditions that may arise during this period, thus setting an international standard of care [23].

Additionally, apart from the provision of basic healthcare services, which are frequently guaranteed within the healthcare system of modern, developed nations, the guidelines also stressed the importance of the provision of proper support and education to the women and their partners in order to facilitate the transition to home and ease the parents into their new roles. The guidelines present evidence that the women and their partners were found to value this postpartum preparation and training, since this opportunity to learn basic newborn care skills under the guidance and support of the midwife, boosted their parental confidence [23, 24]. Additionally, it was shown that both partners valued their autonomy and independence, preferring discretion and non-intrusiveness on behalf of the hospital staff and participation in the major decision regarding management and timing of their discharge to home [23, 24]. Additional evidence suggests that during the postpartum period, women value multiple sources of information, not just from their obstetrician, while the investigators also compiled a list of the preferred characteristics that women value most in the midwifery and other ancillary healthcare personnel [23, 25]. These characteristics include the capability to provide safe, respectful and kind care and the sensitivity and cognitive acuity to recognize, acknowledge and respect individual needs and religious or cultural preferences and sensitivities [23, 25], attributes that, among others, have persisted historically as the most valued and desired traits of a good and capable midwife since classical antiquity [26, 27].

However, the same studies and guidelines also stress the practical shortages and limitations in the application of the aforementioned, valued practices. Namely, they stress that in most cases, the practical advice and training offered focused entirely on the newborn and not enough on the recovery and needs of the woman herself [23, 24]. Additionally, it was underlined by both women, partners and midwifery staff that the discharge process was often rushed, with the women and partners stressing that they did not have enough time to process the overwhelming information provided and the healthcare personnel citing staff shortages as a very important issues and an impedance in the provision of proper care and education [23, 24]. With regard to the needs of the midwifery and other ancillary healthcare staff in particular, they stressed the need for structured guidelines and specialized training, so as they could be more effective when they themselves provided education and training to the women [23, 24]. With regard to the practical constraints and the feasibility of these measures, the studies stress that the primary limitations are: the lack of adequate time to devote to each couple due to staff shortages, the scarce or completely absent training on couple education, the unavailability of official information materials in different languages, financial or logistic constraints that impact length of stay and cultural or societal intricacies and norms that may affect how the information and training is received [23, 24]. This evidence is corroborated by additional studies which, in addition to manpower shortages, also cite resource scarcity and lack of privacy in the postnatal setting due to inadequate or overcrowded facilities and infrastructure as major limitations [28]; with heavy workload of the existing staff, due to shortages, further limiting the availability and

lowering the quality of provided postpartum services [23, 29]. Finally, the investigators cite the lack of central, established guidelines and policies across the different levels of maternal healthcare, in addition to the lack of continuity of care as significant obstacles in the consistent provision of proper information and maintenance of high quality standards of care [23, 29].

Another important point stressed by the WHO 2022 Recommendations is the importance of the midwifery-led continuity of care (MLCC) model [23]. This model advocates for a single, specific midwife, or for a specific small team of known and trusted midwives to support the woman from the beginning of pregnancy through to the postpartum period. This model of care aims at creating a trusting relationship between woman and midwife from the beginning, ensure a safe and successful pregnancy and delivery and facilitate proper education and training of the woman, tailored to her individual needs by the midwife, who at that points has learned what those needs are. While this model is very promising, the authors of the guidelines do concede that it is a context-specific recommendation and greatly depends upon available resources, existing policies and cultural sensitivities, in addition to the need for additional investment in the training and employment of enough, specialized midwifery personnel [23].

With regard to the situation in Greece, data are very limited on the quality of postpartum services as perceived by the women. Empirical evidence suggests a preference for private maternity and postpartum care when the woman can afford it, indicating a conscious or unconscious bias against public maternity services. A study by Panagopoulou et al [30] conducted on women receiving postpartum care at a public hospital, concluded that, while the women were satisfied with the professional support and education they received and with the continuity of care, they found the social support and women's health aspect of their care and training to be severely lacking. This is in concurrence with the observations noted by WHO, as more emphasis is given on the preparation of the couple to receive and care for the newborn at home, while neglecting education and training of the woman on her own health and interaction with her social surroundings [23]. Additionally, in Greece, the effects of the 2008 economic crisis are still felt in most aspects of life, including healthcare. Since then, several issues have been noted, both in terms of material shortages and in terms of human resources issues [4]. Namely, most public healthcare centers have suffered financially, as a result of budget cuts, which translates into scarcity of medical supplies and materials, deterioration and lack of maintenance of healthcare facilities and infrastructure [4]. With regard to human resources, the number of permanent, experienced staff has remained static or been reduced, while the number of patients increased. In order for the system to compensate, temporary, inexperienced staff in the form of trainees are used, further complicating the pre-existing issues of quality of care, since trainees require a lot of time before they can adhere to the standards of the senior staff and are promptly replaced anyway by new trainees once their training has been completed, thus starting the cycle again. The lack of sufficient and experienced personnel, has in turn increased the workload on the existing personnel, with many members of staff working overtime to compensate. This, along with other concurrent factors, has led

to a significant increase in recorded psychological issues amongst members of staff, such as depersonalization, low sense of accomplishment and emotional exhaustion, which severely influence the quality of their work [4]. This effect of the economic crisis is also noted by Panagopoulou et al [30], who attributed their unexpectedly positive results to a possible lowering of women's expected standards of care, since the adverse conditions within the Greek hospitals are known to the public. However, the already tense situation, due to the economic crisis, was further exacerbated by the advent of the COVID-19 pandemic [5]. The rapid increase of patient admissions, combined with the unavailability of infected personnel, in order to limit the spread of the pandemic, further increased the patient to healthcare worker ratio, thus increasing the necessary working hours and workload, leading to a significant increase in symptoms of anxiety, depression, staff fatigue and burnout [5, 31, 32]. This adverse situation of the healthcare staff, combined with the dwindling medical supplies may constitute the most significant reason for the perceived drop in the quality of healthcare services in general and postpartum care in particular in Greece at present.

2.4 The role of the midwife in postpartum care

Despite the adversities faced both in Greece and in other parts of the world during the provision of maternal and postpartum care, the dedicated hospital personnel continue to strive for a basic standard of care in their practice. Of the different medical, paramedical and other staff involved in postpartum care, midwives are the most closely involved with the woman and thus play a vital and strategic role in postpartum management.

Midwives have multiple duties and responsibilities such as the support and wellbeing of the woman throughout pregnancy, delivery, the postpartum and neonatal period, the consideration of the wider and longer-lasting effects of the provided care and the contribution to an optimal start of family life and integrity [33]. The midwife needs to be proficient in a variety of practical clinical skills, medically knowledgeable, socially and psychologically conscious and adept, so as to identify the smallest deviations from the norm and non-verbal signs, calm but quick-witted and resourceful in stressful situations [33]. This already complex role is further complicated by the cultural, geographic, ethnic, economic and other differences that are present between different women, hospitals, cities and countries, demanding that the midwife be versatile and easily adaptable based on her surrounding conditions and the context [33].

For the effective fulfillment of the aforementioned role, the establishment of a strong therapeutic relationship between midwife and woman is key. The woman's experience with the caregiver greatly affects her personal and family life, offering assurance, empowerment and emotional strength when positive, or emotionally scarring the woman in the long term and traumatizing her if negative [34, 35]. The bond between midwife and woman is strengthened gradually, as they get to know each other and build mutual trust between them, which is the

reason why many advocate for the continuity of care model, which allows for this bond to form more easily and effectively. In fact, such a model has a proven effect on actual obstetrical outcomes, with lower preterm birth rates, lower miscarriage rates and lower stillbirth rates, compared to the more traditional models [36], thus further reinforcing the importance of midwives throughout the ante-, intra- and post-partum periods. The dynamic presence and involvement of the midwife has also been reportedly a primary contributor to a more positive birth experience, a feeling of increased agency, sense of control and reduced anxiety, based on patient reports [37].

The woman-midwife bond is further strengthened when the woman feels involved in the decision making process regarding her own care. The midwife's role in supporting the woman's choice is vital, as the mediator between physician and patient, or even as the leading caregiver in multiple scenarios [33, 38]. In order to ensure a proper balance between the involvement of women and optimal therapeutic outcomes, the midwife has to assess the situation using her scientific and medical background, utilize the available clinical information and finally discuss the situation with the woman, explaining complicated and specialized terms in plain language and providing evidence for her recommendations [38]. It is important for the midwife to show patience and understanding, as it is likely that a final decision will not be reached immediately and the matter may be revisited multiple times. When a decision is finally made, based on mutual agreement between woman and midwife, regardless of the outcome the midwife should assist the woman to reflect on the consequent outcome and her feelings on the subject; thus the midwife assists the woman in adjusting to the new situation, be it a positive or a negative adjustment [38].

Overall, the role of the midwife in modern care is very diverse and its extent truly immense. Therefore, assurance of high quality midwifery care, irrespective of the surrounding healthcare system limitations is vital, as it affects a wide variety of different aspects of maternal care particularly and female healthcare more generally. Regardless of her experience, skills or distinctions, the midwife's performance should be frequently evaluated, as patient feedback is the basis for all attempts at improvement.

2.5 Epilogue of general overview

The postpartum period confers several physical and psychological risks for the woman and her newborn. Close and proper monitoring and care are required in order to ensure the safe transition from the hospital environment to home and avoid complications. However, the standards of postpartum care internationally are still lacking, with WHO providing targeted recommendations and stressing the need for attentive care to the woman herself, in addition to the newborn and the provision of education, advice and training to the parents for their new role.

Additionally, the recommendations stress the need for discretion during management, respect for individual cultural needs and active participation of the woman in decision-making. However, there are certain challenges in the implementation of such recommendations in clinical practice, particularly in Greece, given the adverse effects of the economic and more recently the healthcare crisis, which have greatly reduced the available resources and have very adversely affected the healthcare staff. In spite of the difficulties though, midwives continue to provide the necessary healthcare services and their role is indispensable in the care of women throughout pregnancy, delivery and the postpartum period. Possessing specialized practical skills, patience, calmness and psychological and emotional skills, the midwife can form a trusting relationship with the woman and thus better assist her during her time of physical and psychological vulnerability due to her new role of motherhood. It is for this reason that the midwife's contribution to postpartum care should be further explored and evaluated; in particular with the women's perspectives in mind, given the highly personal nature of the pregnancy, delivery and postpartum experience.

3. Specific part

3.1 Introduction

3.1.1 Background

Midwives are specialized healthcare workers, vital in their role of supporting and caring for women during pregnancy, delivery and the postpartum period; in addition to their supporting roles in general and reproductive female care [39, 40]. Historical records have indicated that midwives have been an indispensable part of pregnancy and postpartum care from the times of Hellenic antiquity [41], throughout Medieval times [42] and eventually up to the current modern era. These records, with few exceptions, have also indicated the importance of the woman-midwife bond and the need for the establishment of a strong and influential therapeutic relationship, further highlighting the vital role of the midwife in pregnancy management [42].

One of the most significant periods throughout pregnancy management is the postpartum period, since it denotes a transition phase and has been shown to constitute a considerable source of anxiety for the mother [43], as well as of additional physiological [44, 45] and psychological [46, 47] effects. A frequently focused-on such effect is the one on breastfeeding behavior, which is particularly notable in cesarean section deliveries and is of great importance as it directly affects the growing infant in addition to the mother [48]. In spite of these effects, early postpartum care has been shown to mitigate their impact and significantly assist the mother, achieved through the establishment of a strong and healthy midwife-woman relationship and the provision of simple and practical advice [48, 49]. This observed positive contribution in the postpartum period, has led to many advocating for midwife-led maternal care models and continuity of care models, types of care that have demonstrated multiple

advantages and considerable patient satisfaction, thus further underlining the importance of the midwife's role [50-52].

In spite of the effectiveness of these systems, unfortunately material and human resources are not sufficient to apply them in every setting. With regard to Greece in particular, since the 2008 economic crisis, funding of public hospitals has been reduced, supply shortages became a common occurrence and there has been a recorded significant increase in the incidence of emotional exhaustion, low sense of personal accomplishments, and a severe sense of depersonalization amongst Greek healthcare workers in that time [4]. This challenging situation was further worsened by the COVID-19 pandemic, which required reallocation of the limited available resources and markedly increased the workload of the understaffed hospitals. In response, working hours increased, while working conditions became more adverse, causing overall considerable physical and mental fatigue, stress, depression and burnout amongst healthcare workers, as was demonstrated by several studies [5, 31, 32].

3.1.2 Objective – Research question

The present study had the primary objective of assessing the quality of provided midwifery care services throughout the important postpartum period in Greece, during these challenging times. An additional objective was to identify key weaknesses in the current care system, as well as patient subgroups that may require particular or supplementary services. Through this process, key focus areas may be identified and provide specific targets for improvement in lower resource setting, where system-wide changes are not feasible.

3.2 Methods and materials

3.2.1 Study design, setting and participants

This was a cross-sectional, questionnaire-based study, conducted in public hospitals and clinics in Greece from September 2022 to December 2022. Questionnaires were handed out either in printed form or electronically. The electronic form of the questionnaire was constructed and managed using the Google Forms online platform. Paper handouts and electronic participation links were handed out to eligible participants individually. Participants eligible for inclusion were mothers who had delivered within the past 3 years in a specialized medical center in Greece, such as a hospital or clinic and had received midwifery care services during the postpartum period. Women delivering at home were excluded from this survey. Participants were thoroughly informed with regard to the objectives of the study and the way that the data would be used use and provided informed consent for participation to the study and publication of the findings.

3.2.2 Questionnaire preparation

For the purposes of this study, a questionnaire was prepared to facilitate collection of data and recording of participant perspectives on the quality of midwifery postpartum care. The basis of this questionnaire, was the validated measurement of postpartum midwifery quality of care (MMAYpostpartum) questionnaire by Peters et al [53] **(Figure 1)**. The MMAYpostpartum questionnaire evaluates the perspective of the participant on the quality of midwifery care services via the utilization of 16 individual questions, which are further categorized in three distinct categories, or scales, based on the primary focus of the included questions. The first scale, named "Personal Control", consists of 3 questions and assesses the participant's perspective on their involvement in decision making with regard to the care they receive. It also assesses whether the participant's personal independence and sovereignty were respected by the midwifery staff. The second scale, labelled "Trusting Relationship", comprises 7 questions and quantifies the empathy of the midwife, her understanding of the participant's needs, be they physical or emotional, and the overall way the participant perceives their bond with the midwife. The third scale, named "Orientation and security", contains 6 questions and assesses the capacity of the midwife to provide practical advice, medical information, teach new necessary skills and assist the participant and her partner in their transition to their new roles and responsibilities regarding the newborn. All included MMAYpostpartum questionnaires were scored using the widely used five-point Likert scale, with a central neutral option. Possible answers ranged on a spectrum of agreement, including the following: "not applicable at all/I completely disagree", "Not applicable/I disagree", "Neither applicable nor inapplicable/I neither agree nor disagree, "Applicable/I agree" and "Fully applicable/I completely agree" [54]. The questionnaire was translated to Greek by an expert and translated back into English by another, independent expert in order to ensure translation fidelity. Subsequently, the translated questionnaire was tested on a small sample of women to ensure that the questions were properly understood and that no language, cultural or other differences affected the interpretation of the content by the participants.

In addition to the MMAYpostpartum items, there were additional questions in the questionnaire with the aim to collect relevant baseline data in order to test for possible correlations with participant scores. Such baseline characteristics included participant age, BMI, parity, level of education, type of healthcare (public or private), type of pregnancy (single or multiple), occurrence of pregnancy disorders or conditions, hospitalization during pregnancy, mode of delivery, delivery timing (pre-/full-term), postpartum hospitalization, breastfeeding and main midwifery care parameter in need of improvement. The highest level of education received by the participant was categorized based on the International Standard Classification of Education (ISCED) 2011 [55], for the sake of data standardization. Pregnancy disorders were further specified to the participants with examples such as gestational diabetes, IUGR, pre-eclampsia etc. On the whole, the questionnaire included 30 questions, along with instructions for its completion and a consent form, explaining how the data would be used.

3.2.3 Data collection

Participant answers were collected in both electronic and printed forms and data was extracted to Excel sheets. Participant data was anonymized prior to extraction, in order to facilitate participantt anonymity and data security throughout the analysis process. Participant names were not recorded and instead replaced by codes created specifically for the study. The ultimate datasets contained no identifying information. Submitted questionnaires with missing answers were excluded from the analysis.

3.2.4 Statistical Analysis

Means, medians and their associated variance parameters were calculated for continuous variables, while percentages were calculated for categorical variables. Linear regression was conducted in order to assess the effect of the various baseline characteristics (independent variables) on the final MMAYpostpartum score and the subscales scores (dependent variables). Variables were examined for collinearity with the calculation of tolerance and the variance inflation factor (VIF). The R square coefficient of variance was calculated in order to examine whether the percentage variance within the dependent variable that was explained by the independent variables was acceptable. Ultimately, Pearson's correlations were used in order to assess which baseline parameters were correlated with changes to the final score. The strength of the correlation was evaluated using recommendations published in the available literature, namely: <0.3 negligible, 0.3-0.5 low, 0.5-0.7 moderate, 0.7-0.9 high, 0.9-1 very high [56]. The standardized beta coefficient was also calculated in order to verify the effect of each parameter on the final score individually. A p-value <0.05 was considered statistically significant for all applied tests of significance. All calculations and analyses were performed using the IBM SPSS Statistical Analysis Software v26.

3.3 Results

3.3.1 Data presentation

From the initial 316 eligible potential participants who were contacted, 225 ultimately consented to participate and completed the questionnaire (71.2% response rate). From the questionnaires received, 21 were excluded due to missing data. Ultimately, 204 responses from participants were included in the study and analyzed. Participant mean age was 35.5 years, with ages covering a quite wide spectrum, from 19 to 53 years. The mean BMI of participants was 23.5 and once more demonstrated a wide range amongst participating women, with participants ranging from underweight (BMI=15.8) to morbidly obese (BMI=49.5). All participants had, without exception, completed at least primary education, with the majority also possessing University degrees. Participants were distributed equally as far as parity and type of healthcare (public or private) received were concerned. Regrading mode of delivery, cesarean section (CS) was the dominant mode (54.9% of participants)

and the majority of participants were hospitalized for 3 days. When participants were asked to indicate which areas of midwifery care during the postpartum period were most in need of improvement, the majority stated that they were satisfied with the quality of the provided care and that no improvement was necessary. The second most popular option was that the midwifery staff needed improvement with regard to psychological knowledge and emotional support skills, while improvement of scientific knowledge and medical expertise was a distant third choice. Participants seemed to be mostly satisfied with regard to the practical skills and knowledge of the midwifery staff, as only a small percentage indicated that this area required improvement. The very small number of participants who provided a key area for improvement of their own, indicated mostly that the medical facilities they received care were understaffed and highlighted the need for more midwifery personnel **(Figure 2)**. All the collected baseline data of participants is summarized in **Table 1**.

3.3.2 Questionnaire score outcomes

Collected questionnaire scores per question, along with pooled scores per scale and an overall MMAY postpartum score are presented on **Table 2**. In comparison to the observations by Peters et al [53], the investigators who originally used the MMAYpostpartum questionnaire, we observed numerous significant differences in scores. Most of the answers we recorded demonstrated lower overall mean scores, when compared to the results recorded by Peters et al. [53]. In particular, our study versus the one by Peters et al. [53] yielded lower scores in Q2 (4.03±1.103 versus 4.41±1.2, $p<0.001$), Q3 (4.1±1.066 versus 4.42±1.25, $p<0.001$), Q4 (4.06±0.998 versus 4.73±0.56, $p<0.001$), Q5 (3.87±0.984 versus 4.25±0.95, $p<0.001$), Q6 (3.95±1.035 versus 4.59±0.68, $p<0.001$), Q7 (3.98±1.055 versus 4.62±0.65, $p<0.001$), Q8 (3.99±1.098 versus 4.29±0.89, $p<0.001$), Q9 (3.72±1.206 versus 4.27±0.89, $p<0.001$), Q10 (3.76±1.218 versus 4.52±0.77, $p<0.001$), Q11 (4±0.995 versus 4.39±0.81, $p<0.001$), Q12 (3.63±1.148 versus 3.87±1.02, $p=0.004$), Q13 (3.61±1.179 versus 4.25±0.89, $p<0.001$), Q14 (3.26±1.305 versus 3.67±1.13, $p<0.001$). Interestingly, Q15 scored higher in the present study, compared to Peters et al (2.91±1.303 versus 2.52±1.23, $p<0.001$) [53], while no statistically significant differences were observed for Q1 (3.83±1.162 versus 3.89±1.37, $p=0.5695$) and Q16 (3.94±0.958 versus 3.88±0.98, $p=0.4392$). These differences in observations between the present study and that by Peters et al. [53] are visually depicted in **Figure 3** and **Figure 4**.

3.3.3 Linear regression analysis: model and assumptions

Linear regression was performed in order to assess the effect of the examined baseline characteristics (independent variables) on the final MMAYpostpartum score (dependent variable). All necessary assumptions for employing a linear regression model were tested for and were ultimately fulfilled, indicating satisfactory goodness-of-fit [57]. Namely, the outcome variable (MMAYpostpartum) is continuous; a constant variance of

errors was demonstrated via the random pattern depicted on the scatterplot of residuals and predicted values **(Figure 5)**; linearity and normal distribution were demonstrated on a probability-probability plot **(Figure 6)** and the absence of collinearity was verified. With regard to collinearity, tolerance and variance inflation factor were within acceptable margins. The coefficient of determination (R-square) was 0.310, indicating acceptable percentage of variance within the dependent variable that is explained by the independent variables. Cook's distance was calculated for all individual data points and was within acceptable margins, thus there were no outlier points with significant impact within the data.

3.3.4 Linear regression analysis: results

Pearson's correlation statistics were used to test for statistically significant associations. From the examined parameters, only participant age, type of healthcare received and hospitalization during pregnancy had any meaningful correlation ($R>0.3$) with MMAYpostpartum score, which was also statistically significant ($p<0.05$). Collinearity was again assessed via the correlations between independent variables, whereby $R<0.7$ for all associations amongst independent variables. A detailed summary of the Pearson's correlation analysis results, along with measurement of statistical significance is provided on **Table 3**.

Standardized β coefficients were also calculated in order to estimate the effect of each individual independent variable on the dependent variable (MMAYpostpartum score). The three aforementioned variables maintained high statistical significance when it came to their impact on the dependent variable, with participant age being the most impactful. During the analysis of coefficients, BMI also showed to exert a statistically significant impact on the dependent variable, although small and it had a non-significant correlation with questionnaire score during the previous analysis, therefore this effect was considered negligible. Coefficient calculation verified once more the absence of collinearity during this analysis, with tolerance and variance inflation factor (VIF) being within normal range. This analysis is presented on **Table 4**.

3.3.5 Interpretation of results

With regard to the variables that showed statistically significant impact, participant age demonstrated a significant negative correlation with MMAYpostpartum score. This indicated that women of older age were more likely to be dissatisfied with the provided services by their midwife, in comparison to their younger counterparts. The unstandardized β coefficient of -0.670 for participant age can be interpreted as such: if every other parameter is held constant and is not changed, for every increase in participant age by 1 year, the MMAYpostpartum score drops by 0.670 points, which is a statistically significant drop. This correlation is

illustrated visually in **Figure 7**. Another variable with significant effect was the type of healthcare received, public or private, which demonstrated a significant positive correlation. This means that women treated in private centers were significantly more satisfied with the quality of services provided by their midwife, compared to those that were treated in public centers. By interpreting the calculated β unstandardized coefficient of 7.861, one can conclude that, with all other baseline parameters remaining the same, women who were treated in private centers had a higher MMAY postpartum score by 7.861 points, which was a statistically significant increase. This correlation is visually illustrated in **Figure 8**. The final significant correlation was hospitalization during pregnancy, which had a significant negative effect on MMAYpostpartum score. This meant that women who were hospitalized during pregnancy were most likely to be dissatisfied with the level of quality of the midwifery services provided. With the unstandardized β coefficient being -13.614, women who were hospitalized during pregnancy had a MMAYpostpartum score decrease of 13.614 points on average, if all other baseline conditions remained unchanged. This correlation is visually depicted on **Figure 9**.

With regard to the effect of baseline characteristics on the three individual subscales of the MMAYpostpartum questionnaire, additional linear regression analyses were performed with the subscale scores as dependent variables instead of the overall score. However, neither of the three subscales demonstrated any differences compared to the analysis of the overall score and therefore the results of those analyses will not be included in this report.

3.4 Discussion

The purpose of this study was to evaluate the quality and adequacy of midwifery care services in the Greek healthcare system during the postpartum period. Additionally, the timing of this survey aimed to reflect in the collected data the effect of the nationwide and worldwide healthcare crisis caused by the COVID-19 pandemic, in particular the resource scarcity and personnel insufficiency. With data representative of a wide range of participant demographic, physical, clinical and psycho-social characteristics, this study aimed at providing an accurate depiction of the current state of midwifery care and identify women subgroups who would most benefit from an improved and more attentive approach during postpartum care. This survey concluded that the level of the perceived quality of midwifery services in Greece was inferior to that reported in the available literature [53], in almost all assessed parameters, with a few exceptions. Regarding unique observations made in the present study, after being directly asked to provide the most important area in need of improvement most participants stated that there was no need for improvement, while the second most popular opinion was that psychological and emotional skills were mostly in need of improvement. Finally, with regard to the effect of several baseline characteristics to overall perceived quality of midwifery care, older age, hospitalization during

pregnancy and services in public healthcare centers were significantly associated with notably reduced participant satisfaction.

These results confirm pre-existing empirical observations made by healthcare practitioners in Greece, particularly with regard to the disparities between public and private healthcare services. To further elaborate, public healthcare facilities were the ones most adversely affected throughout the economic crisis, with budget cuts and staff shortages. This adverse situation was further exacerbated during the COVID-19 pandemic, with the resource scarcity forcing healthcare workers into working longer hours under intense conditions, ultimately resulting in increasing reports of burnout amongst Greek healthcare personnel [5, 32]. This adverse situation, inevitably affects working conditions and morale for the midwives working in public hospitals, as they have neither resources, manpower or motivation to devote the necessary attention and provide top quality services for every woman. On the other hand, private healthcare centers have demonstrated higher participant-reported scores of service quality [58] in addition to more favorable assessment of working conditions by the staff [59], compared to public healthcare and were more resilient during the pandemic. These observations are indicative of a necessity for system-wide restructuring of the approach to midwifery care in public hospitals, with the dedication of the necessary time, attention and resources to each woman and more emphasis on psychological and emotional support, as well as the formation of a stronger and healthier woman-midwife relationship. This conclusion may apply beyond the Greek setting as well, since the economic and pandemic crises had a significant impact internationally on healthcare services in general [60] and reportedly on midwifery services in particular [61].

With regard to the effect of maternal age on the perceived quality of care, older mothers were less satisfied with the performance of their midwives, compared to younger ones. This difference may be attributed to the elevated risk for adverse pregnancy and delivery outcomes as maternal age increases, a risk that most women are also aware of. Advanced maternal age has a proven, independent correlation with increased cesarean section rates, incidence of maternal complications, preterm delivery, low birthweight, low Apgar scores, in addition to several pregnancy conditions and adverse outcomes, such as ectopic pregnancy, miscarriage, chromosomal anomalies, congenital anomalies, placenta previa, gestational diabetes and preeclampsia [62-64]. Furthermore, older prospective mothers are reportedly aware of the increased risks to their fetus and themselves [65], with multiple studies assessing women's opinions on this particular matter. Tough et al [66] in their 2006 on the topic, demonstrated that 18.8% of prospective mothers of advanced maternal age were aware of the increased risk for cesarean section, 21.8% for preterm delivery, 11.2% for low birthweight, with the general, overall awareness of increased risks for fetal development and health ranging from 18.0% to 46.5%. These findings persisted in a study by the same team a year later [67], which demonstrated that women's awareness of the maternal risks associated with advanced age ranged from 31.7% up to 77.8% for certain conditions. In a more recent study by Gossett et al [68], awareness ranged from 63% to 89%, indicating that as time passes women become better informed and more cognizant of the risks of advanced maternal age. Therefore, it would be reasonable to assume

that knowledge of the associated risks would lead to added stress and anxiety, making this subgroup more vulnerable and in need of more particular and attentive care by the midwife. Apart from the psychological strain secondary to risk awareness, women of advanced maternal age have also demonstrated a particular proneness to psychological postpartum disorders [69]. Aasheim et al [70] demonstrated that women of this subgroup were at higher risk of psychological distress during the postpartum period, while Silverman et al. [71], in a similar light, demonstrated that these women were more prone to postpartum depression. This increased propensity for psychological disorders in older women may also constitute a reason for the lower recorded MMAYpostpartum scores in this study, as they further exacerbated the already vulnerable state that these women are in and are indicative of the need for more particular care for them.

Complications occurring during pregnancy and the need for hospitalization to combat them, was the final factor that was shown to affect perceived quality of midwifery services in the current study. It has been reported that pre-eclampsia and other disorders that are a frequent cause for hospitalization during gestation, have a significant negative impact on psychological health, causing a wide range of anxiety and depression symptoms [72]. In a study by Bergink et al [73] preeclampsia was once more shown to have a significant effect on mental health, this time during the postpartum period. Women who suffered from the condition during pregnancy, with possible hospitalization for more severe and persisting cases, demonstrated significantly increased incidence of postpartum psychiatric pathology (incidence rate ratio: 1.43, 95% CI 1.22 - 1.68), while this effect was even more pronounced in women who suffered from gestational diabetes in addition to preeclampsia (incidence rate ratio 3.86, 95% CI 1.24 - 12.00). Besides, regardless of the underlying cause, hospitalization has been independently associated with exacerbation of the woman's emotional state, increasing the prevalence of feelings of anxiety, stress and depression and causing adversely affects the woman's capacity to cope and adjust [74]. With all the above taken into consideration, it is not surprising that hospitalization during pregnancy was a statistically significant predictor of poorer perceived quality of midwifery services, being indicative of the inherent vulnerability of this subgroup and the need for particular, attentive and individualized care by the midwife.

The findings of the present study carry implications for midwifery practice in general and its practice in Greece in particular. They confirm the disparity in perceived quality of midwifery services between the public and private maternal care sectors and are indicative of the need for a systematic restructuring of the public postpartum midwifery care model, with emphasis on psychological support and continuity of care, as such models have demonstrated significant participant satisfaction and success in forming productive woman-midwife therapeutic relationships [50, 75-77]. Ideally, a general improvement with system-wide changes and allocation of more resources per woman would greatly improve the quality of the provided midwifery services. However, such significant changes are unrealistic, especially for middle to lower resource settings. In such settings, where impactful budget increases are not feasible, selective targeting for increased midwifery attention and care of more vulnerable women subgroups, such as older women and women with a history of

hospitalization during pregnancy, as was shown by the present survey, may be more feasible and realistic, achieving a meaningful improvement of the quality of received midwifery care during the stressful and high-risk postpartum period.

Admittedly, there are a few limitations to the present study. The first and most impactful is the relatively small sample size which, as is frequently the case in many surveys, may have introduced a degree of bias in the presented results. An additional limitation is that the correlations reported were not very strong ($R<0.5$). However, they were statistically significant and their strength may simply have been impacted by the smaller sample size. Another possible limitation is that there were not enough participants to conduct a meaningful stratification and analysis of outcomes per healthcare center, which would have indicated which centers provided higher or lower quality of midwifery care and would allow for more specific recommendation per center. However, the aim of the present survey was not to evaluate the performance of each individual center, but to provide a general overview of midwifery care services in Greece, therefore one should keep in mind that the results reported may not be applicable and valid for every individual provider of midwifery services in Greece. Finally, the questionnaire utilized in this survey has not been validated for the Greek population specifically, with the original country that used it being Germany. However, the fact that both countries are European Union members and that they adhere to the same guidelines by European Medical and Scientific Institutions and Societies, made the use of the questionnaire in Greece a more acceptable prospect in the opinion of the investigator, since no better alternative was available.

3.5 Conclusion

Midwifes are a vital and indispensable part of postpartum care and significantly impact the woman's experience during this transitional phase. The quality of their services during that period is therefore very significant and unfortunately has been negatively impacted by the economic and healthcare crises of recent years in Greece. Women's perspectives are a good way to assess which areas are in more need of improvement and thus assist in focusing the process. In the present survey, older age, care in public healthcare facilities and hospitalization during pregnancy all had a statistically significant negative correlation with the perceived quality of received midwifery services. This may be indicative that these particular women subgroups would benefit from a more attentive and meticulous approach during postpartum care, as system-wide improvements are more difficult to implement. Future studies are required to confirm these findings using larger samples and to test whether a different approach to these subgroups would translate to actual significant impact on the women's experience.

3.6 Disclosures

I, Alexandra Kosiva, the author, have no conflicts of interest to declare. No external funding was received for

the completion of this thesis. A shorter scientific article based on the findings of this thesis has been published on the Cureus Medical Journal and is available under the following citation: *Kosiva, A., Xydias, E. M., Ziogas, A. C., Tsakos, E., Thanasas, I., & Lykeridou, A. (2023). Evaluation of Postpartum Midwifery Care in Greece Based on Patient-Reported Outcomes Using the MMAYpostpartum Questionnaire: A Cross-Sectional Study. Cureus, 15(9), e46129. https://doi.org/10.7759/cureus.46129*

4. References

1. Waldenström U. Modern maternity care: does safety have to take the meaning out of birth? Midwifery. 1996;12(4):165-73. https://doi.org/10.1016/s0266-6138(96)80003-9.
2. Olza I, Leahy-Warren P, Benyamini Y, Kazmierczak M, Karlsdottir SI, Spyridou A, et al. Women's psychological experiences of physiological childbirth: a meta-synthesis. BMJ Open. 2018;8(10):e020347. https://doi.org/10.1136/bmjopen-2017-020347.
3. Olza I, Uvnas-Moberg K, Ekström-Bergström A, Leahy-Warren P, Karlsdottir SI, Nieuwenhuijze M, et al. Birth as a neuro-psycho-social event: An integrative model of maternal experiences and their relation to neurohormonal events during childbirth. PLoS One. 2020;15(7):e0230992. https://doi.org/10.1371/journal.pone.0230992.
4. Rachiotis G, Kourousis C, Kamilaraki M, Symvoulakis EK, Dounias G, Hadjichristodoulou C. Medical supplies shortages and burnout among greek health care workers during economic crisis: a pilot study. Int J Med Sci. 2014;11(5):442-7. https://doi.org/10.7150/ijms.7933.
5. Pappa S, Athanasiou N, Sakkas N, Patrinos S, Sakka E, Barmparessou Z, et al. From Recession to Depression? Prevalence and Correlates of Depression, Anxiety, Traumatic Stress and Burnout in Healthcare Workers during the COVID-19 Pandemic in Greece: A Multi-Center, Cross-Sectional Study. Int J Environ Res Public Health. 2021;18(5). https://doi.org/10.3390/ijerph18052390.
6. International Confederation of Midwives. International Definition of the Midwife 2017 [3/3/2023]. Available from: https://web.archive.org/web/20170922213449/http:/internationalmidwives.org/who-we-are/policy-and-practice/icm-international-definition-of-the-midwife/.
7. Bryar RM. Theory for midwifery practice. Basingstoke: Macmillan Press; 1995.
8. Hyde A, Roche-Reid B. Midwifery practice and the crisis of modernity: implications for the role of the midwife. Soc Sci Med. 2004;58(12):2613-23. https://doi.org/10.1016/j.socscimed.2003.09.014.
9. Kosiva A, Xydias EM, Ziogas AC, Tsakos E, Thanasas I, Lykeridou A. Evaluation of Postpartum Midwifery Care in Greece Based on Patient-Reported Outcomes Using the MMAYpostpartum Questionnaire: A Cross-Sectional Study. Cureus. 2023;15(9):e46129. https://doi.org/10.7759/cureus.46129.
10. Romano M, Cacciatore A, Giordano R, La Rosa B. Postpartum period: three distinct but continuous phases. J Prenat Med. 2010;4(2):22-5.

11. Zaharatos J, St Pierre A, Cornell A, Pasalic E, Goodman D. Building U.S. Capacity to Review and Prevent Maternal Deaths. J Womens Health (Larchmt). 2018;27(1):1-5. https://doi.org/10.1089/jwh.2017.6800.

12. Paladine HL, Blenning CE, Strangas Y. Postpartum Care: An Approach to the Fourth Trimester. Am Fam Physician. 2019;100(8):485-91.

13. Tully KP, Stuebe AM, Verbiest SB. The fourth trimester: a critical transition period with unmet maternal health needs. Am J Obstet Gynecol. 2017;217(1):37-41. https://doi.org/10.1016/j.ajog.2017.03.032.

14. Zivoder I, Martic-Biocina S, Veronek J, Ursulin-Trstenjak N, Sajko M, Paukovic M. Mental disorders/difficulties in the postpartum period. Psychiatr Danub. 2019;31(Suppl 3):338-44.

15. Feltner C, Wallace I, Berkman N, Kistler CE, Middleton JC, Barclay C, et al. Screening for Intimate Partner Violence, Elder Abuse, and Abuse of Vulnerable Adults: Evidence Report and Systematic Review for the US Preventive Services Task Force. Jama. 2018;320(16):1688-701. https://doi.org/10.1001/jama.2018.13212.

16. Presidential Task Force on Redefining the Postpartum Visit Committee on Obstetric Practice. ACOG Committee Opinion No. 736: Optimizing Postpartum Care. Obstet Gynecol. 2018;131(5):e140-e50. https://doi.org/10.1097/aog.0000000000002633.

17. Verbiest S, Bonzon E, Handler A. Postpartum Health and Wellness: A Call for Quality Woman-Centered Care. Matern Child Health J. 2016;20(Suppl 1):1-7. https://doi.org/10.1007/s10995-016-2188-5.

18. Kassebaum NJ, Bertozzi-Villa A, Coggeshall MS, Shackelford KA, Steiner C, Heuton KR, et al. Global, regional, and national levels and causes of maternal mortality during 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013. Lancet. 2014;384(9947):980-1004. https://doi.org/10.1016/s0140-6736(14)60696-6.

19. Hug L, Alexander M, You D, Alkema L. National, regional, and global levels and trends in neonatal mortality between 1990 and 2017, with scenario-based projections to 2030: a systematic analysis. Lancet Glob Health. 2019;7(6):e710-e20. https://doi.org/10.1016/s2214-109x(19)30163-9.

20. Campbell OM, Cegolon L, Macleod D, Benova L. Length of Stay After Childbirth in 92 Countries and Associated Factors in 30 Low- and Middle-Income Countries: Compilation of Reported Data and a Cross-sectional Analysis from Nationally Representative Surveys. PLoS Med. 2016;13(3):e1001972. https://doi.org/10.1371/journal.pmed.1001972.

21. United Nations Children's Fund (UNICEF), World Health Organization WBG, United Nations Inter-agency Group for Child Mortality Estimation. Levels and trends in child mortality: report 2020. New York: UNICEF; 2020.

22. Galle A, Moran AC, Bonet M, Graham K, Muzigaba M, Portela A, et al. Measures to assess quality of postnatal care: A scoping review. PLOS Glob Public Health. 2023;3(2):e0001384. https://doi.org/10.1371/journal.pgph.0001384.

23. World Health O. WHO recommendations on maternal and newborn care for a positive postnatal experience: web annexes. Geneva: World Health Organization; 2022 2022.

24. Harvey CM, Smith H, Portela A, Movsisyan A. Stakeholder's perspectives of postnatal discharge: a

qualitative evidence synthesis. BMJ Glob Health. 2023;8(Suppl 2). https://doi.org/10.1136/bmjgh-2023-011766.

25. Finlayson K, Crossland N, Bonet M, Downe S. What matters to women in the postnatal period: A meta-synthesis of qualitative studies. PLoS One. 2020;15(4):e0231415. https://doi.org/10.1371/journal.pone.0231415.

26. Jackson R. Doctors and Diseases in the Roman Empire. 1st ed. Portland: University of Oklahoma; 1988.

27. French V. Midwives and Maternity care in the Roman World: Ancient maternity practices. 1st ed: Helios; 1986.

28. Sacks E, Finlayson K, Brizuela V, Crossland N, Ziegler D, Sauvé C, et al. Factors that influence uptake of routine postnatal care: Findings on women's perspectives from a qualitative evidence synthesis. PLoS One. 2022;17(8):e0270264. https://doi.org/10.1371/journal.pone.0270264.

29. Munabi-Babigumira S, Glenton C, Lewin S, Fretheim A, Nabudere H. Factors that influence the provision of intrapartum and postnatal care by skilled birth attendants in low- and middle-income countries: a qualitative evidence synthesis. Cochrane Database Syst Rev. 2017;11(11):Cd011558. https://doi.org/10.1002/14651858.CD011558.pub2.

30. Panagopoulou V, Kalokairinou A, Tzavella F, Tziaferi S. A survey of Greek women's satisfaction of postnatal care. AIMS Public Health. 2018;5(2):158-72. https://doi.org/10.3934/publichealth.2018.2.158.

31. Sikaras C, Ilias I, Tselebis A, Pachi A, Zyga S, Tsironi M, et al. Nursing staff fatigue and burnout during the COVID-19 pandemic in Greece. AIMS Public Health. 2022;9(1):94-105. https://doi.org/10.3934/publichealth.2022008.

32. Pachi A, Sikaras C, Ilias I, Panagiotou A, Zyga S, Tsironi M, et al. Burnout, Depression and Sense of Coherence in Nurses during the Pandemic Crisis. Healthcare (Basel). 2022;10(1). https://doi.org/10.3390/healthcare10010134.

33. Campbell A, Robertson A, Mattison C, Carty E, Marshall JE, Robinson K, et al. Comprehensive Midwifery: The role of the midwife in health care practice, education, and research. McMaster University: The e-Book Foundry at McMaster University; 2020.

34. White Ribbon Alliance. Respectful Maternity Care: The Universal Rights of Childbearing Women. Washington, DC [Internet]. 2011. Available from: https://whiteribbonalliance.org/wp-content/uploads/2022/05/WRA_RMC_Charter_FINAL.pdf.

35. Roofthooft DW, Simons SH, Anand KJ, Tibboel D, van Dijk M. Eight years later, are we still hurting newborn infants? Neonatology. 2014;105(3):218-26. https://doi.org/10.1159/000357207.

36. Smith V. Midwife-led continuity models versus other models of care for childbearing women. Pract Midwife. 2013;16(10):39-40.

37. McLachlan HL, Forster DA, Davey MA, Farrell T, Flood M, Shafiei T, et al. The effect of primary midwife-led care on women's experience of childbirth: results from the COSMOS randomised controlled trial. Bjog. 2016;123(3):465-74. https://doi.org/10.1111/1471-0528.13713.

38. Page LA, McCandlish R. The New Midwifery: Science and Sensitivity in Practice. 2nd ed: Churchill

Livingstone; 2006.

39. Borrelli SE. What is a good midwife? Insights from the literature. Midwifery. 2014;30(1):3-10. https://doi.org/10.1016/j.midw.2013.06.019.

40. Fullerton JT, Thompson JB, Severino R. The International Confederation of Midwives essential competencies for basic midwifery practice. an update study: 2009-2010. Midwifery. 2011;27(4):399-408. https://doi.org/10.1016/j.midw.2011.03.005.

41. Tsoucalas G, Karamanou M, Sgantzos M. Midwifery in ancient Greece, midwife or gynaecologist-obstetrician? J Obstet Gynaecol. 2014;34(6):547. https://doi.org/10.3109/01443615.2014.911834.

42. Garratt RA. The midwife as healer. Complement Ther Nurs Midwifery. 2001;7(4):197-201. https://doi.org/10.1054/ctnm.2001.0573.

43. Nakić Radoš S, Tadinac M, Herman R. Anxiety During Pregnancy and Postpartum: Course, Predictors and Comorbidity with Postpartum Depression. Acta Clin Croat. 2018;57(1):39-51. https://doi.org/10.20471/acc.2017.56.04.05.

44. Banaei M, Azizi M, Moridi A, Dashti S, Yabandeh AP, Roozbeh N. Sexual dysfunction and related factors in pregnancy and postpartum: a systematic review and meta-analysis protocol. Syst Rev. 2019;8(1):161. https://doi.org/10.1186/s13643-019-1079-4.

45. Maughan BC, Marin M, Han J, Gibbins KJ, Brixey AG, Caughey AB, et al. Venous Thromboembolism During Pregnancy and the Postpartum Period: Risk Factors, Diagnostic Testing, and Treatment. Obstet Gynecol Surv. 2022;77(7):433-44. https://doi.org/10.1097/ogx.0000000000001043.

46. Gedzyk-Nieman SA. Postpartum and Paternal Postnatal Depression: Identification, Risks, and Resources. Nurs Clin North Am. 2021;56(3):325-43. https://doi.org/10.1016/j.cnur.2021.04.001.

47. Osborne LM. Recognizing and Managing Postpartum Psychosis: A Clinical Guide for Obstetric Providers. Obstet Gynecol Clin North Am. 2018;45(3):455-68. https://doi.org/10.1016/j.ogc.2018.04.005.

48. Hobbs AJ, Mannion CA, McDonald SW, Brockway M, Tough SC. The impact of caesarean section on breastfeeding initiation, duration and difficulties in the first four months postpartum. BMC Pregnancy Childbirth. 2016;16:90. https://doi.org/10.1186/s12884-016-0876-1.

49. Barimani M, Vikström A. Successful early postpartum support linked to management, informational, and relational continuity. Midwifery. 2015;31(8):811-7. https://doi.org/10.1016/j.midw.2015.04.009.

50. Sandall J, Soltani H, Gates S, Shennan A, Devane D. Midwife-led continuity models versus other models of care for childbearing women. Cochrane Database Syst Rev. 2016;4(4):Cd004667. https://doi.org/10.1002/14651858.CD004667.pub5.

51. Sutcliffe K, Caird J, Kavanagh J, Rees R, Oliver K, Dickson K, et al. Comparing midwife-led and doctor-led maternity care: a systematic review of reviews. J Adv Nurs. 2012;68(11):2376-86. https://doi.org/10.1111/j.1365-2648.2012.05998.x.

52. Liu Y, Li T, Guo N, Jiang H, Li Y, Xu C, et al. Women's experience and satisfaction with midwife-led maternity care: a cross-sectional survey in China. BMC Pregnancy Childbirth. 2021;21(1):151. https://doi.org/10.1186/s12884-021-03638-3.

53. Peters M, Kolip P, Schäfers R. A questionnaire to measure the quality of midwifery care in the postpartum period from women's point of view: development and psychometric testing of MMAYpostpartum. BMC Pregnancy Childbirth. 2021;21(1):412. https://doi.org/10.1186/s12884-021-03857-8.

54. Jebb AT, Ng V, Tay L. A Review of Key Likert Scale Development Advances: 1995-2019. Front Psychol. 2021;12:637547. https://doi.org/10.3389/fpsyg.2021.637547.

55. Section 9. ISCED levels. International Standard Classification of Education: ISCED 2011. Montreal, Quebec: UNESCO Institute for Statistics; 2012. p. 25-59.

56. Mukaka MM. Statistics corner: A guide to appropriate use of correlation coefficient in medical research. Malawi Med J. 2012;24(3):69-71.

57. Casson RJ, Farmer LD. Understanding and checking the assumptions of linear regression: a primer for medical researchers. Clin Exp Ophthalmol. 2014;42(6):590-6. https://doi.org/10.1111/ceo.12358.

58. Mutiarasari D, Demak IPK, Bangkele EY, Nur R, Setyawati T. Patient satisfaction: Public vs. private hospital in Central Sulawesi, Indonesia. Gac Sanit. 2021;35 Suppl 2:S186-s90. https://doi.org/10.1016/j.gaceta.2021.07.012.

59. Zgliczyński WS, Jankowski M, Rostkowska O, Sytnik-Czetwertyński J, Śliż D, Karczemna A, et al. Public and private health care services in the opinion of physicians in Poland. Int J Occup Med Environ Health. 2020;33(2):195-214. https://doi.org/10.13075/ijomeh.1896.01486.

60. Eftekhar Ardebili M, Naserbakht M, Bernstein C, Alazmani-Noodeh F, Hakimi H, Ranjbar H. Healthcare providers experience of working during the COVID-19 pandemic: A qualitative study. Am J Infect Control. 2021;49(5):547-54. https://doi.org/10.1016/j.ajic.2020.10.001.

61. Jacobsen KE, Katon JG, Kantrowitz-Gordon I. Midwifery in the Time of COVID-19: An Exploratory Study from the Perspectives of Community Midwives. Womens Health Issues. 2022;32(6):564-70. https://doi.org/10.1016/j.whi.2022.06.009.

62. Pinheiro RL, Areia AL, Mota Pinto A, Donato H. Advanced Maternal Age: Adverse Outcomes of Pregnancy, A Meta-Analysis. Acta Med Port. 2019;32(3):219-26. https://doi.org/10.20344/amp.11057.

63. Correa-de-Araujo R, Yoon SSS. Clinical Outcomes in High-Risk Pregnancies Due to Advanced Maternal Age. J Womens Health (Larchmt). 2021;30(2):160-7. https://doi.org/10.1089/jwh.2020.8860.

64. Peteiro-Mahia L, Blanco-López S, López-Castiñeira N, Navas-Arrebola R, Seoane-Pillado T, Pertega-Díaz S. Advanced Maternal Age as an Obstetric Risk Factor: Current Experience in a Hospital from Northwestern Spain. Acta Med Port. 2022;35(7-8):550-7. https://doi.org/10.20344/amp.16550.

65. Niessen K, Werner-Bierwisch T, Metzing S, Sayn-Wittgenstein FZ. [Motherhood at the Age of 35 and Over: The Risk of Advanced Maternal Age as Perceived by Women - a Literature Study]. Z Geburtshilfe Neonatol. 2017;221(3):111-21. https://doi.org/10.1055/s-0043-104864.

66. Tough S, Benzies K, Newburn-Cook C, Tofflemire K, Fraser-Lee N, Faber A, et al. What do women know about the risks of delayed childbearing? Can J Public Health. 2006;97(4):330-4. https://doi.org/10.1007/bf03405615.

67. Tough S, Tofflemire K, Benzies K, Fraser-Lee N, Newburn-Cook C. Factors influencing childbearing

decisions and knowledge of perinatal risks among Canadian men and women. Matern Child Health J. 2007;11(2):189-98. https://doi.org/10.1007/s10995-006-0156-1.

68. Gossett DR, Nayak S, Bhatt S, Bailey SC. What do healthy women know about the consequences of delayed childbearing? J Health Commun. 2013;18 Suppl 1(Suppl 1):118-28. https://doi.org/10.1080/10810730.2013.825677.

69. Strelow B, Fellows N, Fink SR, O'Laughlin DJ, Radke G, Stevens J, et al. Postpartum depression in older women. Jaapa. 2018;31(3):15-8. https://doi.org/10.1097/01.JAA.0000530288.83376.8e.

70. Aasheim V, Waldenström U, Hjelmstedt A, Rasmussen S, Pettersson H, Schytt E. Associations between advanced maternal age and psychological distress in primiparous women, from early pregnancy to 18 months postpartum. Bjog. 2012;119(9):1108-16. https://doi.org/10.1111/j.1471-0528.2012.03411.x.

71. Silverman ME, Reichenberg A, Savitz DA, Cnattingius S, Lichtenstein P, Hultman CM, et al. The risk factors for postpartum depression: A population-based study. Depress Anxiety. 2017;34(2):178-87. https://doi.org/10.1002/da.22597.

72. Delahaije DH, Dirksen CD, Peeters LL, Smits LJ. Anxiety and depression following preeclampsia or hemolysis, elevated liver enzymes, and low platelets syndrome. A systematic review. Acta Obstet Gynecol Scand. 2013;92(7):746-61. https://doi.org/10.1111/aogs.12175.

73. Bergink V, Laursen TM, Johannsen BM, Kushner SA, Meltzer-Brody S, Munk-Olsen T. Pre-eclampsia and first-onset postpartum psychiatric episodes: a Danish population-based cohort study. Psychol Med. 2015;45(16):3481-9. https://doi.org/10.1017/s0033291715001385.

74. Alzahrani N. The effect of hospitalization on patients' emotional and psychological well-being among adult patients: An integrative review. Appl Nurs Res. 2021;61:151488. https://doi.org/10.1016/j.apnr.2021.151488.

75. Forster DA, McLachlan HL, Davey MA, Biro MA, Farrell T, Gold L, et al. Continuity of care by a primary midwife (caseload midwifery) increases women's satisfaction with antenatal, intrapartum and postpartum care: results from the COSMOS randomised controlled trial. BMC Pregnancy Childbirth. 2016;16:28. https://doi.org/10.1186/s12884-016-0798-y.

76. Perriman N, Davis DL, Ferguson S. What women value in the midwifery continuity of care model: A systematic review with meta-synthesis. Midwifery. 2018;62:220-9. https://doi.org/10.1016/j.midw.2018.04.011.

77. Ricchi A, Rossi F, Borgognoni P, Bassi MC, Artioli G, Foa C, et al. The midwifery-led care model: a continuity of care model in the birth path. Acta Biomed. 2019;90(6-s):41-52. https://doi.org/10.23750/abm.v90i6-S.8621.