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PERCEPTION OF WOMEN TOWARDS COMPANION IN LABOUR AND THEIR BIRTH EXPERIENCE DURING COVID-19

GROUP 17

NUR KHAIRINA BINTI MOHD ZAKI
TANESVARAN A/L BALAKRISHNEN
ANG LIN

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CERTIFICATION

It is hereby certified that we have read the project dissertation entitled **"PERCEPTION OF WOMEN TOWARDS COMPANION IN LABOUR AND THEIR BIRTH EXPERIENCE OF WOMEN DURING COVID-19"** by Nur Khairina Binti Mohd Zaki, Tanesvaran A/L Balakrishnen and Ang Lin in terms of scope, quality, and presentation as fulfilment of the requirements for research project MDR 3901.

DR RIMA ANGGRENA BINTI DASRILSYAH

Specialist and Clinical Lecturer

Obstetrics And Gynaecology Department,

Faculty Of Medicine And Health Science,

University Putra Malaysia

DR AMILIA AFZAN MOHD JAMIL

Specialist and Clinical Lecturer

Obstetrics And Gynaecology Department,

Faculty Of Medicine And Health Science,

University Putra Malaysia

DECLARATION

We declare that the project is our original work except for quotations and citations which have been duly acknowledged. We also declare that it has not been previously and is not concurrently, submitted for any other degree at Universiti Putra Malaysia or at any other institutions.

NUR KHAIRINA BINTI MOHD ZAKI

Date:

TANESVARAN A/L BALAKRISHNEN

Date:

ANG LIN

Date:

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CONTENT

PERCEPTION OF WOMEN TOWARDS COMPANION IN LABOUR AND THEIR BIRTH EXPERIENCE DURING COVID-19

Zaki, N. K. M.[1], Balakrishnen, T.[1], Ang, L.[1], Jamil, A. A.[2], Dasrilsyah, R. A.[2]

[1] Second Year Medical Student, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia

[2] Department of Obstetrics and Gynaecology, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia

ABSTRACT

Introduction: COVID-19 has caused drastic changes in the healthcare standard operating procedure to reduce the COVID-19 spread. Consequently, this pandemic brings a new norm in the society where movements to hospital are restricted, social distancing becomes compulsory and the usage of physical protective equipment is inevitable. This has aroused women's concern to have a labour companion during this pandemic. This study aims to assess the association between the women's sociodemographic factors with their perception towards companions in labour and their birth experience during COVID-19. **Methods:** A cross-sectional study and convenience sampling involving women who gave birth in Malaysia between March 2020 to March 2021 were conducted. Self-administrative online questionnaire was distributed via proxies. The socio-demographic factors, perception and birth experience were described using descriptive analysis. The non-parametric Pearson Chi-square, Fisher's exact test, Simple and Multiple Logistic Regression were used to test the association between socio-demographic factors with the perception of women towards companion in labour and their birth experience during COVID-19. **Results:** Out of the 400 respondents, 86.8% of women had positive perception towards companion in labour and 74.5% of women had negative birth experience during COVID-19. There was no significant association between sociodemographic factors and the women's perception towards companion in labour and their birth experience during COVID-19. **Conclusion:** The number of women having a companion in labour during COVID-19 pandemic was greatly reduced. Their perceptions towards companions in labour were positive. However, their birth experiences were negatively affected by the pandemic regardless of their sociodemographic factors.

Keywords: companion, COVID-19, experience, labour, perception

PERSEPSI WANITA TERHADAP PENEMAN BERSALIN DAN PENGALAMAN MEREKA KETIKA BERSALIN SEMASA COVID-19.

Zaki, N. K. M.[1], Balakrishnen, T.[1], Ang, L.[1], Jamil, A. A.[2], Dasrilsyah, R. A.[2]

[1] Pelajar Doktor Perubatan Tahun 2, Fakulti Perubatan dan Sains Kesihatan, Universiti Putra Malaysia

[2] Jabatan Obstetrik dan Ginekologi, Fakulti Perubatan dan Sains Kesihatan, Universiti Putra Malaysia

ABSTRAK

Pengenalan: Pandemik koronavirus (COVID-19) merupakan wabak yang telah mendorong kepada pelbagai perubahan drastik terhadap Prosedur Operasi Standard (SOP) di fasiliti-fasiliti kesihatan bagi mengurangkan kadar keberjangkitan virus. Oleh yang demikian, pandemik ini telah memperkenalkan norma baharu di mana kebanyakan hospital dan fasiliti kesihatan telah menghadkan jumlah pelanggan di dalam premis pada satu-satu masa. Penjarakan sosial dan pemakaian Peralatan Perlindungan Diri (PPE) wajib dipatuhi bagi mengurangkan risiko keberjangkitan virus dalam kalangan pesakit dan petugas kesihatan.Wabak ini secara tidak langsung turut menimbulkan kebimbangan dalam kalangan ibu mengandung mengenai peneman sewaktu bersalin. Kajian ini juga bertujuan untuk mengenalpasti hubungan di antara faktor sosiodemografik (umur, tahap pendidikan ibu, jumlah pendapatan bulanan, bilangan anak, latar belakang geografi dan status perkahwinan) para ibu dengan persepsi terhadap peneman bersalin dan pengalaman mereka ketika bersalin semasa COVID-19. **Metodologi:** Kajian keratan rentas telah dilaksanakan yang melibatkan para ibu di seluruh Malaysia yang telah melahirkan anak dalam tempoh masa bermula daripada Mac 2020 hingga Mac 2021.Kaedah persampelan mudah telah digunakan dalam kajian ini. Para pengkaji telah mengedarkan borang soal selidik dalam talian melalui ruangan sosial media. Data bagi faktor sosiodemografik, persepsi dan pengalaman telah dianalisa melalui kaedah analisa deskriptif. Manakala ujian Pearson, Fisher, Regresi Logik Mudah dan Regresi Logik Berganda telah digunakan untuk mengkaji hubungan di antara faktor sosiodemografik dengan persepsi terhadap peneman bersalin dan pengalaman mereka ketika bersalin semasa COVID-19. **Keputusan:** Kajian ini telah melibatkan sejumlah 400 orang responden. 86.8% responden mempunyai persepsi positif terhadap peneman ketika bersalin and 74.5% responden mempunyai pengalaman bersalin yang negatif sewaktu pandemik COVID-19. Hasil kajian turut mendapati bahawa tiada hubungan yang signifikan di antara faktor sosiodemografik (umur, tahap pendidikan ibu, jumlah pendapatan bulanan, bilangan anak, latar belakang geografi dan status perkahwinan) dengan persepsi terhadap peneman bersalin dan pengalaman

mereka ketika bersalin semasa COVID-19. **Kesimpulan:** Terdapat pengurangan pada bilangan wanita yang ditemani sewaktu bersalin sepanjang pandemik COVID-19 berlangsung. Persepsi para wanita terhadap peneman bersalin adalah positif, namun pengalaman bersalin mereka telah terkesan secara negatif sewaktu pandemik COVID-19.

Kata kunci: bersalin, COVID-19, peneman, pengalaman, persepsi

Chapter 1 - Introduction

1.1 Background

Childbirth is a special mental-cognitive process that is complex and a significant crisis in the life of a woman. It has a variety of psychosocial and emotional dimensions and generates memories that will still linger in mothers' minds, often traumatic. During childbirth, the high levels of stress that mothers face can continuously involve their mind and body and make them feel a wide spectrum of positive and negative emotions. In stressful and uncomfortable situations in the delivery room, pregnant women tend to ask for support and care from the labour companion because of their fears and negative feelings towards labour pain. Hence, a companion to a mother in labour is someone who has enough knowledge, understands women's needs, and constantly seeks to increase the sense of involvement of the mother by evoking positive feelings in her (Carlsson et al., 2009).

Companionship of choice is a human right that is relevant across the spectrum of childbirth. To ensure this is facilitated during a pandemic, every effort should be made. Labour companionship is not only a birth observation, but a dynamic process that is required throughout the work and birth process. This social support has measurable biological and clinical effects and outcomes in the short and long term. In order to be effective, women need to have birth companionship in all environments throughout labour and birth including during the latent phase of labour, and induction (Renfrew et al., 2020). Every woman has the right to an adequate standard quality of health, which includes the right throughout pregnancy and childbirth to dignified, respectful health care, as well as the right to be free from abuse and discrimination. In line with a human rights-based approach to reducing maternal morbidity and mortality, the provision of compassionate maternity care could enhance the experience of women in labour and childbirth and resolve health disparities (Bohren et al., 2015).

In January 2020, a novel coronavirus, SARS-CoV-2, was identified as the cause of an outbreak of viral pneumonia in Wuhan, China. The disease was named as coronavirus disease 2019 (COVID-19), subsequently spreading globally. The National Institute of Allergy and Infectious Disease (NIAID) stated that in the first three months after COVID-19 emerged, nearly 1 million people were infected, causing 50,000 people dead.

This COVID-19 pandemic creates a challenge to birth companionship in hospitals. This is due to the potential for viral spread and the need for social distancing. This has led to widespread restrictions on visitors in all parts of hospitals. It also reduces the ability of labour companionship to use therapeutic touch, and raises concerns about extra people coming into the labour room.

1.2 Problem Statement

One of the most important life-changing experiences for a woman is childbirth. In an unfamiliar situation like a hospital, being alone in labour can be a harrowing experience for a vulnerable mother-to-be. Having a companionship throughout the labour is found to be essential in various ways towards the mother. Cooperatively, research has shown that continuous labour companionship have clinically significant benefits, including shorter labour with higher spontaneous vaginal birth rates, decreased use of intrapartum analgesia and caesarean section, increased satisfaction with her experience of childbirth. In addition, during labour, women with companions reported less fear and distress, which also seemed to act as a buffer against adverse aspects of medical interventions (Bohren et al., 2017).

As relating the theme to the current pandemic, the government has decided to implement a nationwide Restriction of Movement Order beginning 18th of March (Prime Minister's Office of Malaysia, 2020). This Order is enforced under the Control and Prevention of Infectious Diseases Act 1988 and the Police Act 1967. As expected, this MCO has affected the nation in many possible ways which also includes healthcare. In conjunction to that, a lot of

healthcare standard operational procedures have been revised to reduce the spread of COVID-19. For example, Husband and baby friendly policies to be suspended for patients under investigation (KKM Guidelines on management of COVID-19 in Obstetrics & Gynaecology, 2020).

Moreover, a study conducted in New York City reported a 13.5% prevalence of asymptomatic infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in women presenting for childbirth (Campbell et al., 2020). On May 20, 2020, MOH confirmed that a pregnant woman travels from Ampang to Kelantan to give birth without knowing she has COVID-19. This event prompted the development of a COVID-19 screening and testing program of patients presenting for childbirth. For instance, labour companions are not recommended, if present must be screened, sign declaration form and wear 3 ply surgical masks. In addition, Minimal Healthcare Workers' involvement in conducting delivery/present in the delivery room is also implemented during MCO.

Thus, this study will investigate the perception of women towards companions in labour and their birth experience during COVID-19.

1.3 Significance of study

The findings in this study will:

1. Provide information on the perception of women towards companions in labour and their birth experience during COVID-19.

2. Improve the understanding of women on the significance of having a companion in labour.

3. Raise awareness among the community to stand up for the rights of women having a companion in labour regardless of the extenuating circumstances.

4. The government and healthcare sectors can reconsider the appropriate and relevant measure in order to protect the women's rights of having a companion in labour in face of any pandemic in future.

1.4 Research question

1. What is the sociodemographic (maternal age, maternal educational level, total household income, number of children, geographical background and marital status) of women in Malaysia?

2. What is the perception of women towards companions in labour?

3. What is the birth experience of women during COVID-19?

4. What is the association between the sociodemographic (maternal age, maternal educational level, total household income, number of children,

geographical background and marital status) of women with the perception of women towards companions in labour?

5. What is the association between the sociodemographic (maternal age, maternal educational level, total household income, number of children, geographical background and marital status) of women with the birth experience of women during COVID-19?

1.5 Objectives

1.5.1 General objectives

To investigate the sociodemographic factors associated with the perception of women towards companions in labour and their birth experience during COVID-19.

1.5.2 Specific objectives

1. To determine the sociodemographic factors which are maternal age, maternal educational level, total household income, number of children, geographical background and marital status of women.

2. To determine the perception of women towards companions in labour.

3. To determine the birth experience of women during COVID-19.

4. To determine the association between sociodemographic factors (maternal age, maternal educational level, total household income, number of children, geographical background and marital status) and the perception of women towards companions in labour.

5. To determine the association between sociodemographic factors (maternal age, maternal educational level, total household income, number of children, geographical background and marital status) and the birth experience of women during COVID-19.

1.6 Hypothesis

1. There is significant association between sociodemographic factors (maternal age, maternal educational level, total household income, number of children, geographical background and marital status) and the perception of women towards companions in labour.

2. There is significant association between sociodemographic factors (maternal age, maternal educational level, total household income, number of children, geographical background and marital status) and the birth experience of women during COVID-19.

Chapter 2 - Literature Review

2.1 Introduction

The World Health Organization (WHO) Quality of Care Framework for maternal and new-born health outlines access to emotional and social support of women's choice as core to the experience of care and to achieving positive person-centered health outcomes. Hence, WHO emphasizes that every woman is given the choice to experience labour and childbirth with a companion of her choice (Lavender et al., 2020). It is crucial to guarantee autonomy, agency and choice for all women. Next, it can enhance participatory implementation to apply sustainable labour companionship alternatives. Moreover, this can improve the effectiveness of health systems to facilitate respect, protection and the fulfilment of women's sexual and reproductive health and rights (World Health Organization, 2014).

Labour companions supported women in four different ways. Firstly, companions disseminated childbirth information, narrowed the communication gaps between health workers and women, and alleviated non-pharmacological pain to provide practical support Next, companions were advocates to uphold the rights of the women during labour. Thirdly, companions gave practical support, by providing massages or holding her hand. Finally, companions supported women emotionally by comforting them to boost their confidence and always be there for them (Bohren et al., 2019).

However, the outbreak of Coronavirus disease (COVID-19), a highly infectious disease caused by a newly discovered coronavirus affects the birth companionship in labour around the world. This pandemic brings to a new norm in the society where movements to hospital are restricted, social distancing is not an option but a necessity, the usage of physical protective equipment (PPE) is inevitable. Without a shadow of doubt, this has aroused public concern on the

needs of having a companion in labour during this pandemic. The prohibition of companionship throughout labour would heighten interventions, prolong the hospital stay and increase exposure of women and staff cross-infection (Renfrew et al., 2020).

In Malaysia, everyone including the women who are going to give birth need to be screened for COVID-19 as standard operational procedure and no more companions are allowed in government hospitals. The management of women in labour would be a caesarean section if the patient is suspected or confirmed to have COVID-19 except for emergency delivery. In order to minimize the exposure to staff, there are 7 numbers of healthcare providers including one obstetrician, one assistant, one anesthetist, general anaesthetic nurse, one scrub nurse, one circulating nurse and one floating nurse (Ministry of Health Malaysia, 2020). There are marked changes in mental status of pregnant women including increased stress and anxious thoughts, reduced motivations and loss of concentration in this pandemic. 82.5% of the respondents reported voiced out worries about the absence of partners in labour (Ahlers-Schmidt et al., 2020). Hence, it is high time for us to delve into the perception of women towards companion in labour and the birth experience of women during COVID-19.

2.2 Perception of Women Towards Companion in Labour

Informational support

It has been well proven that companionship in labour is significant in providing informational support. To elucidate this point, the companion shouldered important responsibility to explain the process of childbirth in layman terms (Ma et al., 2019). They enlightened the mother, reduced the confusion and boosted the confidence of the mother during labour. Besides, companions acted as the translator especially encountering women with

language barriers (McLeish & Redshaw, 2018). Furthermore, some women desired to be fully informed about the procedures which the doctors had imposed on them. They would love to be aware of what is happening next exactly (Afulani et al., 2018).

Another study explained that 26.7% of the mothers appreciated the guidance and support provided to learn the right way of managing strength and giving birth to babies. The tangible support made the mothers concentrate on breathing techniques instead of the unbearable pain (Ngai & Xiao, 2020). Next, it could be said without fear of contradiction that the women in labour cannot make the right choices and are required to be instructed to complete the childbirth. However, women desired to be cared for with respect and they felt awesome to have somebody who asked for consent. The information or reminder on what needed to be done and what would be done were crucial to support the women in labour (Lambert et al., 2018).

Advocacy and practical support

Companions played a role to bear witness to the process of childbirth. They shared the childbirth experience with the women by being with her, and were viewed as observers who could monitor, reflect, and report on what transpired throughout labour and childbirth, such as witnessing pain, the birth process, and the women's transformation to motherhood. In conjunction, birth companionship is associated with increased satisfaction with healthcare services (Hodnett et al., 2013). Moreover, a study also suggests that women who have birth companions are less likely to experience mistreatment during childbirth (Diamond-Smith et al., 2016).

Besides, the companions also provided physical support to women throughout labour and childbirth, such as giving them a massage and holding their hand. Companions encouraged and helped women to mobilise throughout

labour or to change positions, such as squatting or standing, and provided physical support to go to the bathroom or adjust clothing (Afulani et al., 2018).

Emotional support

Childbirth is the most significant life changing experience for women with lifelong effects on their health. Being alone in labour in an unfamiliar environment such as a hospital can be a frightening experience for a vulnerable mother-to-be. Having a companionship throughout the labour is found to be essential for the emotional support towards the mother. The companion could be anyone that the patient is comfortable with, it could be either the husband, the mother or doula, as their physical presence are found to be the source of support and encouragement throughout the delivery processes (Abushaikha & Massah, 2012).

The support is done by the companion through giving continuous presence as well as supplying the mother with constant reassurance and praise which the mothers find very comforting (Afulani et al.,2018). Also, 80.2% of the women desired to have companionship due to the emotional support provided (Morhason-Bello et al., 2008).

2.3 Birth Experience of Women during COVID-19

Reduced companionship

The companionship in labour in Nepal started to reduce 3 weeks before the lockdown and continued to decrease by 6·0% (–6·9 to –5·1) during the lockdown. This was because the standard operational procedure restricted companions to women in labour to minimise the risk of nosocomial transmission of SARS-CoV-19 (KC et al., 2020). Besides, 51.2% of women voiced out their concerns about the partner's ability to be a companion during childbirth.

Alternatives such as limiting one support individual and requesting induction were taken (Ahlers-Schmidt et al., 2020).

Choosing induced delivery instead of spontaneous delivery

In facing the uncertainties in the pandemic COVID-19, there are overwhelming studies demonstrating the women's preference to have induced vaginal delivery or elective caesarean section increased slightly rather than spontaneous vaginal delivery. The proportion of women whose labour was induced increased from 17·1% before lockdown to 32·1% during lockdown (p=0·0075) (KC et al., 2020). Furthermore, the frequency of labour induction and elective caesarean section increased respectively from 27.1 % and 20.4 % in 2019 to 30.0 % and 23.6 % in 2020: this difference was statistically significant (X^2 = 8.52, p = 0.014). In the meantime, the spontaneous delivery rate declined from 52.5% to 46.6% in this study (Dell'Utri et al., 2020). The most likely underlying reason could be the advice of doctors to reduce the risks of infection. Thus, both studies proved that most women would choose a pre-plan delivery to get a companion in delivery or would prefer to have a caesarean section if companion is not allowed.

Mental status in women during labour

Study after study showed that the prohibition of having a companion during delivery could make the women feel lonely and more anxious. This could deteriorate the labour performance and lead to more birth complications rather than merely to protect the women and babies from the spread of COVID-19. Midwives validated the fact that women (n = 113) experienced a birth horror film and were extremely depressed when their plans were disrupted (González-Timoneda et al., 2020). Moreover, the women asserted the changes in mental status related to the COVID-19 pandemic (82.5%), including intensified stress (63.2%), heightened anxious mind (50.0%), loss of concentration (36.8%) and aggravated fearful thoughts (40.4%)

(Ahlers-Schmidt et al., 2020). Hence, these studies emphasize the importance of having a companion in labour during COVID-19 to provide mental and emotional support to the women.

In contrast, another study highlighted the perception of women that the companion could not provide realistic help to the women in labour. Thus, they felt it would be a burden and it was more preferable for the companion to stay out and wait. The women had complete trust with the health care providers alone (Afulani et al., 2018). In agreement to this point, it might be convincingly argued that when the companion could not do much but may bring more harm to the women and babies in the face of the pandemic, COVID-19. Moreover, some pregnant women in Italy displayed their concern (2.62 ± 0.59, $p>0.05$) for the health of elderly relatives rather than worrying about their own health during this pandemic COVID-19 (Ravaldi et al., 2020).

Desire to have companion

In agreement to the notion that a companion could provide instrumental support, 84% of women would feel being loved and cared for and 42% felt less trouble and pain (Bangal et al., 2018). In reality, the existence of companionship did not curb the pain, but it provided emotional support and strength to complete the childbirth. Demonstrating correct breathing techniques would relieve the labour pain among 70% of women (Ngai & Xiao, 2020). Furthermore, many women ($n = 113$) realised that they were tested positive for COVID-19 when about to give birth. It would be a surprise mixed with complex feelings which could lead to more birth complications. It is unquestionable the significance of companionship to give psychological and practical support to the women in labour (González-Timoneda et al., 2020).

Being discriminated in labour without a companion

Under stressful and tense environment in labour theatre, 41.6% of women suffered from physical abuse, verbal abuse and discrimination. The pathetic truth was 3·1% of women were exposed to forceful downward abdominal pressure, and 1·9% were dragged down to the bed strenuously. Besides, this study also demonstrated that most women were being shouted at (20·0%) and reprimanded (9·6%). To further clarify, this study also highlighted that 267 out of 1000 women were abused verbally at 15 minutes before and including birth (Bohren et al., 2019). Hence, it is clear that women are so vulnerable and easily become the victim of verbal abuse during labour without a companion. This phenomenon has aroused public attention and highlighted the importance of having a companion to reduce the risk of postpartum depression.

In addition, this study explains that it was estimated that 17.9% of women agreed that they were ignored by the healthcare worker and could not voice out their concern in the labour room while 16.2% felt they were a burden or trouble in the labour room. Furthermore, 2% of women with vaginal delivery complained of being alone without healthcare providers when giving birth in the beginning. To elucidate this point, around 22% women complained about long waiting times before getting attention (Bohren et al., 2019). Thus, it is vital to have someone during labour to accompany and give support.

Apart from that, the rights of having a companion during labour were violated in 1200 of 2672 events in this study. In the absence of a labour companion, the basic needs of women such as getting oral fluids were restricted in 427 of 2187 women with vaginal delivery. The discrimination worsen when food were banned in 32·4% women, particularly in Ghana (41·6%) and Nigeria (60·7%). The autonomy of patient were detrimentally affected when most women in Ghana (84·6%) and Nigeria (93·2%) were ignorant of the fact they could move but they did not change position during

labour, compared with Guinea (9·3%) and Myanmar (50·2%) (Bohren et al., 2019).

2.3 Sociodemographic Factors associated with Perception of Women towards Companion in Labour and Birth Experience of women during COVID-19

2.3.1 Maternal age

Studies have shown that different ages of women show various preferences in having companionship during labour. For example, women aged between 20-29 years old were more likely to prefer male companions than women aged less than 20 years old (OR=2.34, p=0.458). It is believed that women in their mid 20s are well aware of the benefits of maternal care which includes reducing maternal and perinatal morbidity, reducing the risk of maternal anemia during delivery and reducing the chance of premature birth (Mohammed et al., 2020).

However, a study in Kenya reveals that among 877 respondents of their survey, women from the age group of 20 to 29 years old were less likely to be allowed continuous accompaniment during childbirth than women from the age group of 15-19 years old (OR=0.79, p>0.05) (Afulani et al., 2018). During the COVID-19 pandemic, it is predicted that maternal age no longer determines the presence of companion during labour due to the hospital restrictions.

2.3.2 Maternal educational level

A study asserted that the level of education did not pose an impact on the perception of women towards companion in labour. All participants with

lower primary education, Grade 1–4 according to South Africa's lowest level of education, had some insight about companionship while for the Grade 5–7 group nobody was aware of the existence of companionship. Moreover, only 37% participants with a tertiary educational background acknowledged the presence of companionship (Ntombana et al., 2014).

With regards to the birth experience of women, a study asserted that the younger women with no educational background (OR=3.6, p=0·0004) and younger women with some educational (OR 1.6, p=0·0460) were more prone to be the victim of verbal abuse during labour compared with older women (≥30 years) (Bohren et al., 2019). In the view of privacy measures, women with low educational levels were most likely to be discriminated against. Thus, this has highlighted the importance of having a companion to protect the women's rights being violated during labour, especially in the crisis of pandemic, COVID-19.

2.3.3 Total household Income

Formally-employed women were less likely to encourage the involvement of male companion during their delivery than informally-employed women (OR=0.74, p=0.564) (Mohammed et al., 2020). Next, a study proved that women with lower total household income were more likely to have total absence of companion compared to women with higher total household income (OR=2.83, p<0.001) (Diniz et al., 2014).

In facing the crisis of COVID-19, the economics around the globe had suffered from downfall and this indirectly affected the birth experience of women. The employment status of full-time workers dropped dramatically from 40.4% to 25.4% while people who struggled to maintain the living expenses shot up significantly from 25.9% to 50.4% (p<0.001). For instance, the shortage of basic items like diapers, declined social support and the inability to get lactation, therapy and other support too (Ahlers-Schmidt et al., 2020). Hence,

some women could not get a companion especially when the companion struggles to earn a living for a better future. Also, the costs of getting COVID-19 testing will definitely increase the burden of the family.

2.3.4 Number of children

The study about labour companionship perception by delivered women and providers in Kenya has asserted that multiparous (3 births) did not want their partners present as companions because they wanted them to go home and take care of other children than nulliparous women (OR=0.37, $p<0.05$). Moreover, multiparous women do have previous experiences of labour and childbirth, which is why their perception over the significance of labour companion is different from nulliparous women (Afulani et al., 2018).

In contrast, another study showed that multiparous women were actually more likely to experience labour companionship than nulliparous women (OR=1.4, $p>0.05$) (Perkins et al., 2019). Yet, in view of the COVID-19 pandemic, both multiparous and nulliparous women are restricted from having companions in labour to abide by the standard operating procedure (SOP).

2.3.5 Geographical background

The study demonstrated that 63.2% of women from rural areas prefer to deliver at home rather than public or private facilities ($p<0.001$) as they can obtain food and water more easily in the presence of a companion, showing that women from rural areas appreciated the presence of a companion to boost their birth satisfaction (Perkins et al., 2019).

Women living in urban areas received higher quality of care during labour than those in rural areas (mean=7.7 vs mean=7.2, $p<0.05$). This is due to the higher accessibility to healthcare systems in city centres (Afulani, 2015).

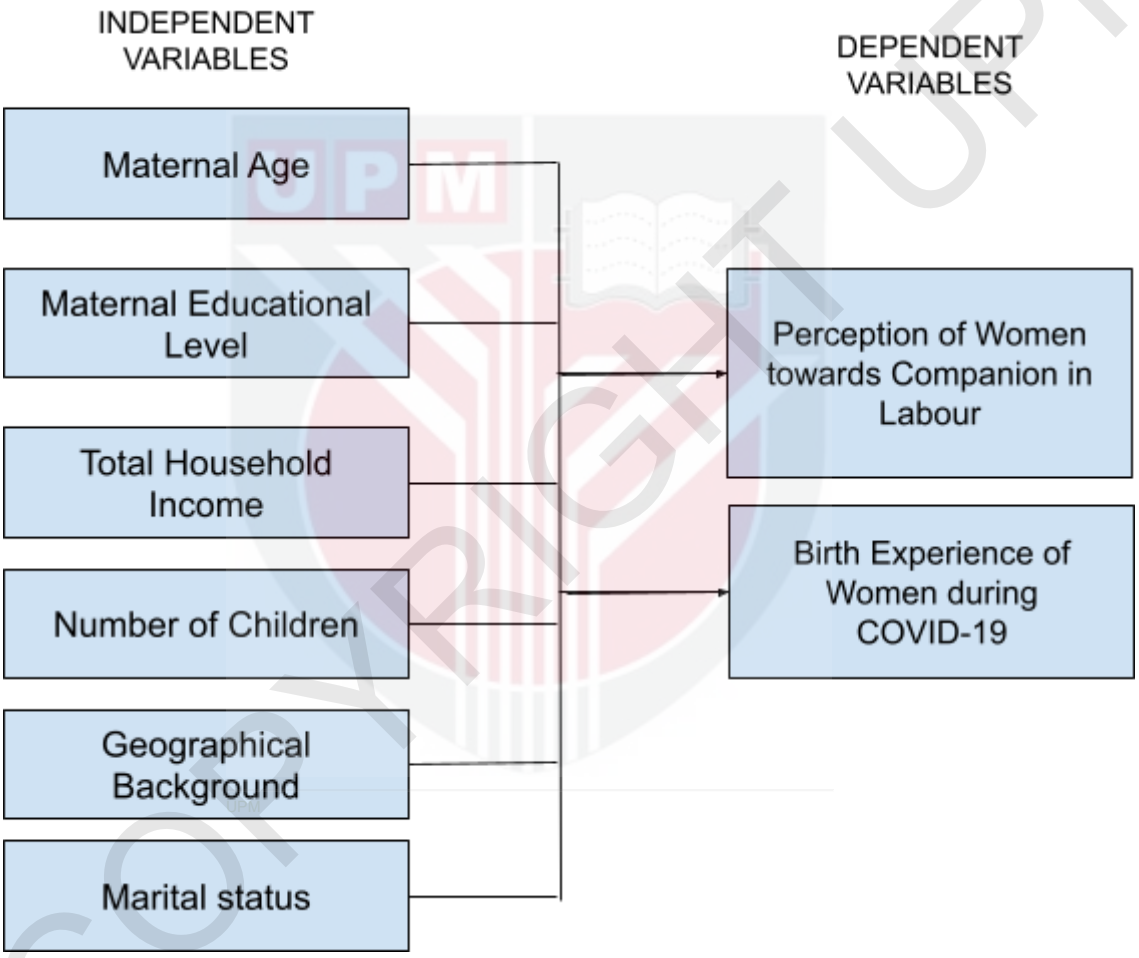
In the case for COVID-19, the availability of companions in labour is determined by the place of delivery, whether in government or private hospitals, instead of the geographical background.

2.3.6 Marital status

In a study, it is demonstrated that married women were more likely to encourage male involvement as a companion during their delivery compared to women who were unmarried (OR=9.85, p=0.014) (Mohammed et al., 2020). This is likely due to the strong bond and close relationship between married women and their husbands, hence affecting their perception towards the need of their companionship in labour.

Single women were more prone to any physical, verbal abuse, stigma and discrimination than married women (OR=1.1,p>0.05) (Bohren et al., 2019). Hence, it is expected that women are more likely fall victim to discrimination and prejudice during COVID-19 pandemic since no companion is allowed in most hospital institutions.

2.4 Conceptual framework



Chapter 3- Methodology

3.1 Study location

The study was conducted in Malaysia, nationwide.

3.2 Research design

This research was a quantitative study.

3.3 Study design

A cross sectional study was used in this study.

3.4 Study duration

The study was conducted from 20 December 2020 to 5 July 2021. Data collection commenced on 26th March 2021 and ended by 9th April 2021.

3.5 Sampling

3.5.1 Sample population

The sample population of this study was all women who gave birth in Malaysia, in the time frame of March 2020 to March 2021.

3.5.2 Sampling frame

The sample frame of this study was the women who gave birth in Malaysia, in the time frame of March 2020 to March 2021.

3.5.3 Selection Criteria

3.5.3.1 Inclusion criteria

- Women who gave birth during COVID-19 from March 2020 - March 2021 in Malaysia
- Women who are able to understand Malay or English

3.5.3.2 Exclusion criteria

- Women who are not willing to give consent.

3.5.4 Sampling unit

The sampling unit was a woman who gave birth during COVID-19 from March 2020 to March 2021.

3.5.5 Sampling method

The sampling method chosen was convenience sampling. The questionnaire was made into a Google Form and was blasted on different social media platforms such as Facebook, Instagram, Twitter, Whatsapp and Messenger.

3.5.6 Sample Size Estimation

Based on the prevalence of women who preferred the presence of companion for support during childbirth (Al-Mandeel et al., 2013), we calculated the target sample size and we were finalised with 419 target respondents. We have also included other sample size calculations in the appendix.

$$n = \frac{z^2_{1-\propto/2}}{d^2} P\,(1-P)$$

n = estimated sample size

Z1- α = Standard error associated with 95% confidence interval = 1.96

P = Prevalence women preferred the presence of companion for support during childbirth, 0.453

d = precision of study

If precision,d is 0.025,

$n = [1.96^2 \times 0.453 \times (1-0.453)] / 0.025^2$

$n = 1523.06$

$n = 1523$

If precision,d is 0.05,

$n = [1.96^2 \times 0.453 \times (1-0.453)] / 0.05^2$

$n = 380.7656$

$n = 381$

So the most optimum number of a sample size to choose was 381 based on population study+ 10% drop out.

Thus, $n = 381 + (381 \times 10/100)$

$n = 381 + 38.1$

$n = 419.1$

$n = 419$

3.6 Variables

3.6.1 Dependent variable

1. Perception of Women towards Companion in Labour

The 10 questions in Section B of our questionnaire were adopted from the Birth Companion Support Questionnaire by Dr Lynne Dunne (Dunne et al., 2014). For each question (4A to J), there was 4 options and the scoring as shown in the table below:

Option	Score
All the time	1
Most of the time	2
A little	3
Not at all	4

The individual scores of each question from 4A to J in section B were summed up. The total score of 1-20 was categorised as positive perception of women towards companion in labour while 21-40 was categorised as negative perception of women towards companion in labour.

2. Birth Experience of Women during COVID-19

We created and validated the questions in section C of our questionnaire to assess the birth experience of women during COVID-19. For each question (4A to J), there was 5 options and the scoring as shown in the table below:

Option	Score
Strongly disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly agree	5

The individual scores of each question from 4A to J in section C were summed up. The total score of 1-25 was categorised as positive birth experience of women during COVID-19 while 26-50 was categorised as negative birth experience of women during COVID-19.

3.6.2 Independent variable

Sociodemographic factors:

1. Maternal age
2. Maternal educational level
3. Total household income
4. Number of children
5. Geographical background
6. Marital status

3.7 Data collection

3.7.1 Study instrument

In this study, a questionnaire will be used comprises of

- Section A: Sociodemographic factors of respondents
- Section B: Perception of women towards companion in labour
- Section C: Birth experience of women during COVID-19

3.7.2 Validity and reliability

The items of section B in the questionnaire were adopted from previous studies by (Dunne et al., 2014). This questionnaire was translated into Malay. The translated versions were pilot tested for clarity of meaning, appropriateness of the words used, and cultural acceptance of the scales. No alteration was made to the translated versions because they were found to be reliable as the Cronbach α was 0.813.

1. Content Validity: The questionnaire was assessed by the supervisor and co-supervisor and other experts in the field. Comments were taken and corrections were made.

2. Face Validity: The online validity assessed by giving the questionnaire to 34 women who gave birth between March 2020 - March 2021 who went through the questionnaire to see if they understand each section. This was done by sharing the questionnaires via social media such as Facebook, Instagram, Twitter, Whatsapp and Messenger. Comments will be taken and appropriate corrections will be made.

3.7.3 Data collection technique

Data was collected by distributing Google Forms via social media platforms like Facebook, Instagram, Twitter, Whatsapp, Telegram and Messenger to the women who gave birth from March 2020 to March 2021. Upon submission of the response, the data was collected and analysed. All information relating to the participants would not be revealed to any other parties. The results of the data obtained were reported in an aggregated, collective manner thus specific individual information will not be disclosed.

3.8 Operational definition

The operational definitions of the variables are shown in Table 1.0.

Variables	Operational Definitions	Scale
Maternal age	Year 2021 minus the year of birth of subject	• 18-25 • 26-35 • 35-45 • >45
Maternal educational level	Level of the highest completed qualification reported in any field of study	• Informal educational • Primary school/ UPSR • Secondary school/SPM • Tertiary/degree/diploma • MSc/PhD
Total household income	Total amount of money earned by every member of a single household monthly	• B40 : <RM 4849 • M40 : RM 4850 - RM 10,959 • T20 : > RM 10959
Number of children	In terms of the quality of children the subject gave birth to.	• 1 • 2-5 • >5
Geographical Background	As filled in by the respondents in the questionnaire	• Johor • Kedah • Kelantan • Melaka • Negeri Sembilan • Pahang • Penang • Perak • Perlis • Sabah • Sarawak

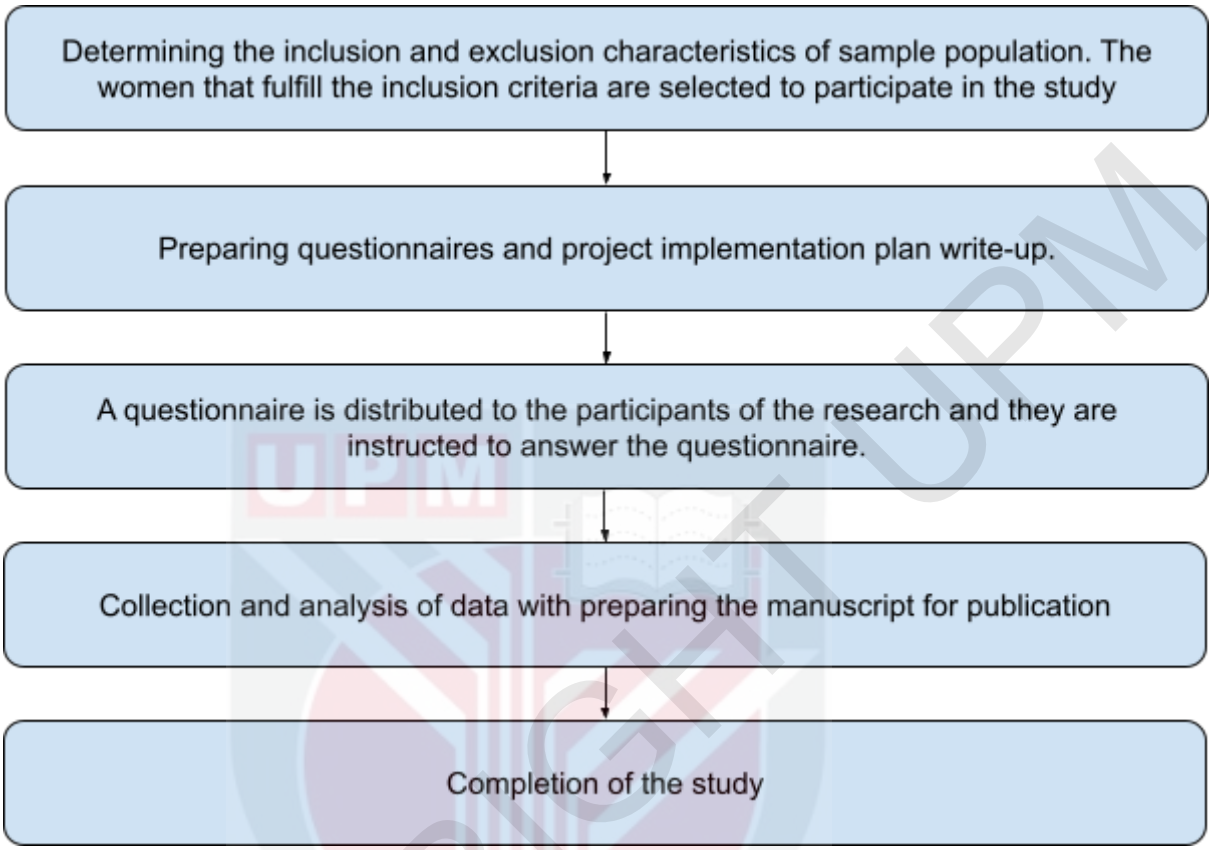
		• Selangor • Terengganu • Kuala Lumpur • Labuan • Putrajaya
Marital status	The state of being married or not married	• Single • Married • Divorced
Perception of Women towards Companion in Labour	The personal understanding of women towards labour companionship from their own point of view	
Birth Experience of Women during COVID-19	The personal encounter of birth delivery of women during the COVID-19 pandemic	

3.9 Data analysis

The collected data was analysed using the IBM Statistical Package for Social Science (SPSS) version 26.0. The missing data and keying error were checked. The variables for categorical data were shown as percentage and frequency.

The non-parametric Chi square test or Fisher exact test was used for categorical data to investigate the association between dependent variables (categorical data) and independent variables (categorical data). Next, the Simple Logistics Regression and Multiple Logistics Regression test were used to determine the association between dependent variables (dichotomous categorical data) and independent variables (categorical data).

3.10 Study Flow Chart



3.11 Expected Outcomes

The sociodemographic background (maternal age, maternal educational level, total household income, number of children, geographical background and marital status) of respondents were determined. The association between the socio-demographic background and perception of women towards companions in labour and birth experience of women during COVID-19 were determined. The association between the socio-demographic background and perception of women towards companions in labour and birth experience of women during COVID-19 were determined.

3.12 Study ethics

The ethical approval was obtained from the Ethics Committee For Research Involving Human Subject of Universiti Putra Malaysia (JKEUPM) with the code number of JKEUPM-2021-077. The research ethics were strictly

followed to make sure the confidential data of the participants would be safe and not misused. It was our responsibility to maintain their confidentiality.

3.13 Declaration of conflict of interest

We declared that there was no conflict of interest.

Chapter 4: Results

4.1 Response

The questionnaire was posted on different social media platforms such as Whatsapp, Facebook and Instagram. According to the calculated sample size, our target number of respondents was 419 but we only managed to get a total of 400 respondents who fulfilled our inclusion and exclusion criteria.

So, the total data collected over the total sample size calculated was 95.47%.

4.2 Descriptive Analysis

4.2.1 Sociodemographic Factors of Women

Table 4.2.1 which shows the distribution of respondents according to their sociodemographic factors, majority of the respondents (79.5%) are in the age group of 26 to 35 years old while the rest are between 18 to 25 and 36 to 45 years old with the percentage of 7.8% and 12.8% respectively. Most of them are married (99%), Muslim (85.3%) and are from Malay ethnicity (82.5%), which is representing the majority of Malaysian social background. Less than one-tenth of the respondents completed secondary school but a vast percentage of them obtained a degree certificate (82.3%).

The dispersion of states where these respondents live is quite diverse. Selangor noted the highest number of respondents (31%) while Putrajaya is the lowest (0.5%) with only 2 respondents who participated in this study. Most of the respondents live in the urban (71.3%) and suburban (27.5) areas. Only a small percentage of them reside in the rural area (1.3%). The total household income group of these respondents lies vastly in the income group of B40

(50%) and M40 (39.8%). It is also fairly common for them to have only one child (49.8%) or 2-5 children (49.3%). Only 1% of the respondents have more than 5 offspring.

Throughout their pregnancy during the pandemic of COVID-19, half of these respondents (50.7%) had delivered their babies through normal vaginal childbirth. While almost another half of them (42.5%) had to undergo a Caesarean section which leaves about 6.8% of them who needed the assistance of vacuum or forceps during the process. The most typical place for delivery among these mothers are the government hospitals (76.8%)

Table 4.2.1 Sociodemographic Factors Of Respondents

Sociodemographic factors	Number of Respondents	Percentage (%)
Age (in years)		
18-25	31	7.8
26-35	318	79.5
36-45	51	12.8
>45	0	0
Race		
Malay	330	82.5
Indian	15	3.8
Chinese	34	8.5
Others	21	5.3
Religion		
Islam	341	85.3
Buddha	27	6.8
Christian	17	4.3
Hindu	14	3.5
Others	1	0.3

Education Level		
Secondary / SPM	39	9.8
Tertiary / Degree	329	82.3
MSC / PhD	32	8.0
Total Household Income		
B40: <RM4850	200	50.0
M40: RM4850-RM10,959	159	39.8
T20: RM10,959	41	10.2
Number of Children		
1	199	49.8
2-5	197	49.2
>5	4	1.0
State		
Johor	65	16.3
Kedah	18	4.5
Kelantan	16	4.0
Melaka	22	5.5
Negeri Sembilan	15	3.8
Pahang	19	4.8
Penang	21	5.3
Perak	20	5.0
Perlis	3	0.8
Sabah	16	4.0
Sarawak	14	3.5
Selangor	124	31.0
Terengganu	17	4.3
Kuala Lumpur	28	7
Putrajaya	2	0.5
Geographical Background		
Urban	285	71.3
Suburban	110	27.5
Rural	5	1.3
Marital Status		

Single	3	0.8
Married	396	99.0
Divorced	1	0.2
Mode of Delivery		
Normal (vaginal) Childbirth	203	50.7
Caesarean Section	170	42.5
Vacuum or Forcep	27	6.8
Place of Delivery		
Government Hospital	307	76.8
Private Hospital	87	21.8
Others	6	1.4

4.2.2 Perception of Women towards Companion in Labour

Table 4.2.2 shows the distribution of respondents according to their perception of women towards companions In labour. 391 out of 400 (97.8%) respondents prefer to be accompanied by their husband or partner while 6 respondents (1.5%) prefer to be accompanied by mother. There are 172 respondents (43%) who have the experience of having a companion during labour and 98% of their companions are husbands.

In the view of perception of women towards companions in labour, overall 86.8% of the respondents had a positive perception towards companion in labour with the median score of 13 and interquartile range of 7. 248, (62%) respondents felt respected and admired all the time, while 227 (56.8%) respondents were praised for their efforts with comments like ‘great job’, ‘well done’ all the time. Besides, 330 (82.5%) respondents felt the companions were there for them all the time and 302 (75.5%) respondents were offered physical comfort through touch all the time. In contrast, 25 (6.3%) respondents agreed their companions did not speak to the midwife or doctor about their needs at all and did not assist them with coping techniques at all. In addition, 292 (73%)

respondents enjoyed having the company of this support person all the time and 290 (72.5%) respondents felt satisfied with their support all the time.

TABLE 4.2.2 Perception of Women Towards Companion In Labour

	Median (IQR)	Frequency	Percentage (%)
I prefer to be accompanied by			
Husband / partner		391	97.8
Mother		6	1.5
Else		3	0.8
Do you have experience of having a companion during labour?			
Yes		172	43.0
No		228	57.0
If yes, who is the companion?			
Husband / partner		170	98.8
Mother		2	1.2
Made me feel respected and admired.			
All of the time		248	62.0
Most of the time		88	22.0
A little		35	8.8

Not at all	29	7.2
Praised my efforts with comments like 'great job', 'well done'.		
All of the time	227	56.8
Most of the time	114	28.5
A little	30	7.5
Not at all	29	7.2
Made me feel they were there for me.		
All of the time	330	82.5
Most of the time	49	12.3
A little	9	2.3
Not at all	12	3.0
Offered me physical comfort through touch (Touch may include holding your hand, wiping your face, rubbing your back).		
All of the time	302	75.5
Most of the time	63	15.8
A little	18	4.5
Not at all	17	4.3

Spoke to the midwife or doctor about my needs (For example, need to change position or to request pain relief).		
All of the time	213	53.3
Most of the time	112	28.0
A little	50	12.5
Not at all	25	6.3
Assisted me with coping techniques (eg, giving massages, relaxation and breathing techniques).		
All of the time	254	63.5
Most of the time	96	24.0
A little	25	6.3
Not at all	25	6.3
Enjoyed having the company of this support person.		
All of the time	292	73.0
Most of the time	77	19.3
A little	12	3.0
Not at all	19	4.8

Provided me with eye contact when praising my efforts.		
All of the time	231	57.8
Most of the time	118	29.5
A little	33	8.3
Not at all	18	4.5
Listened and respected my wishes in relation to me following my birth plan.		
All of the time	270	67.5
Most of the time	97	24.3
A little	15	3.8
Not at all	18	4.5
Left me feeling satisfied with their support.		
All of the time	290	72.5
Most of the time	89	22.3
A little	8	2.0
Not at all	13	3.3
13 (7)		

Option	Score
All the time	1
Most of the time	2
A little	3
Not at all	4

	Frequency	Percent
Positive perception towards companion in labour (Total score: 1-20)	347	86.8
Negative perception towards companion in labour (Total score:21-40)	53	13.2
Total	400	100

4.2.3 Birth Experience of Women during COVID-19

Table 4.2.3 shows the distribution of respondents according to the birth experience of women during COVID-19. 378 out of 400 (94.5%) respondents liked to have a companion in labour during COVID-19 while 22 respondents (5.5%) did not like to have a companion in labour during COVID-19. There are 85 respondents (21.3%) who have the experience of having a companion in labour during COVID-19 and 21.8 % of their companions were asked to be tested for COVID-19 as a requirement to accompany them. In the view of birth experience of women during COVID-19, overall 74.5% of the respondents had negative birth experience during COVID-19 with the median score of 31 and interquartile range 10.75,where (75.6%) respondents strongly agreed and agreed that they were worried about the risk of infecting COVID-19, while 207 (51.8%) respondents strongly disagreed and disagreed with delivering the baby without companion. Moreover, 323 (80.8%) respondents strongly disagreed to choose Caesarean delivery when they cannot have a companion in the labour room and 174 (43.5%) respondents strongly agreed that they struggled to give birth alone. In addition, 283 (70.8%) respondents strongly agreed and agreed

that they felt more worry and anxious to give birth alone and 296 (74.1%) respondents strongly agreed and agreed that they felt lonely to give birth alone. Besides, 165 (41.3 %) respondents strongly agreed and agreed that they were afraid of getting physical and verbal abuse without a companion. Furthermore, 183 (45.8%) respondents strongly disagreed with not understanding the message given by the doctor or healthcare workers and 109 (27.3%) strongly disagreed with not being able to make the right decision by themselves in the labour room. Finally, 163 (40.8%) respondents strongly disagreed with having a higher chance to deliver by Caesarean section during COVID-19.

Table 4.2.3 Birth Experience of Women during COVID-19

	Median (IQR)	Frequency	Percentage (%)
Would you like to have a companion in labour during COVID-19?			
Yes		378	94.5
No		22	5.5
Do you have a companion in labour during COVID-19?			
Yes		85	21.3
No		315	78.8
Was your companion asked to be tested for COVID-19 as a requirement to accompany you?			
Yes		87	21.8
No		313	78.3

I was worried about the risk of infecting COVID-19.		
Strongly disagree	17	4.3
Disagree	14	3.5
Neutral	67	16.8
Agree	79	19.8
Strongly agree	223	55.8
I had to deliver the baby without a companion.		
Strongly disagree	153	38.3
Disagree	54	13.5
Neutral	69	17.3
Agree	30	7.5
Strongly agree	94	23.5
I chose Caesarean delivery since I cannot have a companion in the labour room.		
Strongly disagree	323	80.8
Disagree	37	9.3
Neutral	23	5.8
Agree	6	1.5
Strongly agree	11	2.8
I struggled to give birth alone.		
Strongly disagree	57	14.2
Disagree	36	9.0
Neutral	76	19.0
Agree	57	14.2
Strongly agree	174	43.5

I felt more worried and anxious to give birth alone.		
Strongly disagree	28	7.0
Disagree	33	8.3
Neutral	56	14.0
Agree	71	17.8
Strongly agree	212	53.0
I felt lonely giving birth alone.		
Strongly disagree	34	8.5
Disagree	24	6.0
Neutral	46	11.5
Agree	63	15.8
Strongly agree	233	58.3
I was afraid of getting physical and verbal abuse without a companion.		
Strongly disagree	102	25.5
Disagree	70	17.5
Neutral	63	15.8
Agree	54	13.5
Strongly agree	111	27.8
I could not understand the message given by the doctor or healthcare workers.		
Strongly disagree	183	45.8
Disagree	84	21.0
Neutral	87	21.8
Agree	26	6.5
Strongly agree	20	5.0

I could not make the right decision by myself in the labour room.		
Strongly disagree	109	27.3
Disagree	65	16.3
Neutral	85	21.3
Agree	64	16.0
Strongly agree	77	19.3
I might have a higher chance to deliver by Caesarean section during COVID-19.		
Strongly disagree	163	40.8
Disagree	49	12.3
Neutral	85	21.3
Agree	34	8.5
Strongly agree	69	17.3
	31(10.75)	

Option	Score
Strongly disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly agree	5

	Frequency	Percent
Positive birth experience of Women during COVID-19 (Total score: 1-25)	102	25.5
Negative birth experience of Women during COVID-19 (Total score: 26-30)	298	74.5
Total	400	100

4.3 Analytical Analysis

4.3 Association between Sociodemographic Factors and Perception of Women towards Companion in Labour

Table 4.3 shows the association between sociodemographic factors and perception of women towards companion in labour. In univariate logistic regression analysis, it was found that there was no significant association between all the sociodemographic factors (maternal age, maternal educational level, total household income, number of children, geographical background and marital status of women) and perception of women towards companion in labour. Factors (maternal age, maternal educational level and total household income) that had a p-value of <0.25 in the univariate logistic regression analysis were entered in the final multivariate logistic regression model.

Table 4.3 Association between Sociodemographic Factors and Perception of Women towards Companion in Labour

Sociodemographic factors	Perception of Women towards Companion in Labour		Simple Logistic Regression				Multiple Logistic Regression			
			Odd ratio	95% confidence interval		p value	Odd ratio	95% confidence interval		p value
	Positive	Negative		Lower	Upper			Lower	Upper	
Maternal age										
18 - 25	25	6	1							
	80.60%	19.40%								
26 - 35	276	42	0.634	[0.246	1.637]	0.346				
	86.80%	13.20%								
36 - 45	46	5	0.453	[0.126	1.634]	0.226				
	90.20%	9.80%								
Maternal Education Level										
Secondary / SPM	32	7	1							
	82.10%	17.90%								
Tertiary / Degree	284	45	0.147	[0.017	1.269]	0.081				
	86.30%	13.70%								
MsC / PhD	31	1	0.724	[0.302	1.74]	0.471				
	96.90%	3.10%								
Total household income										
B40: < RM4850	170	30	1							
	85.00%	15.00%								
M40: RM4850 - RM10,959	139	20								
	87.40%	12.60%	0.447	[0.13	1.543]	0.203				
T20: > RM10,959	38	3	0.815	[0.444	1.498]	0.511				
	92.70%	7.30%								

Number of children						
1	170	29	1			
	85.40%	14.60%				
2-5	173	24	0	[0	0]	0.999
	87.80%	12.20%				
>5	4	0	0.813	[0.455	1.454]	0.485
	100.0%	0.00%				
Geographical background						
Urban	246	39	1			
	86.30%	13.70%				
Sub-urban	96	14	0	[0	0]	0.999
	87.30%	12.70%				
Rural	5	0	0.92	[0.478	1.77]	0.803
	100.0%	0.00%				
Marital Status						
Single	2	1	1			
	66.70%	33.30%				
Married	344	52	0	[0	0]	1
	86.90%	13.10%				
Divorced	1	0	0.302	[0.027	3.393]	0.332
	100.0%	0.00%				

Forward variable method was used.

Cox & Snell R Square = 1.5%

Nagelkerke R Square = 2.7%

Omnibus Test of Model Coefficient: p > 0.001

Classification table = 86.8

OR - Odds ratio, CI - Confidence interval

4.4 Association between Sociodemographic Factors and Birth Experience of Women during COVID-19

4.4.1 and 4.4.2 Association between Sociodemographic Factors and Experience of Women Having a Companion during COVID-19

Table 4.4.1 and table 4.4.2 show the association between sociodemographic factors of women and their experience of having a companion during COVID-19. Table 4.4.1 shows total household income was significantly associated with the experience of having a companion during COVID-19 ($p<0.001$). Table 4.4.2 shows geographical background was significantly associated with the experience of having a companion during COVID-19 ($p<0.001$).

There was no significant association between sociodemographic factors (maternal age, maternal educational level, number of children, marital status) and the experience of having a companion during COVID-19 ($p>0.05$) as in table 4.4.1 and table 4.4.2.

Table 4.4.1 Association between Sociodemographic Factors (Maternal Age, Maternal Educational Level, Total Household Income) and Experience of Women Having a Companion during COVID-19

Sociodemographic factors	Do you have a companion in labour during COVID-19?		Pearson Chi-Square		
	Yes	No	x^2	df	p value

Maternal Age					
18-25	3 (9.7%)	28 (90.3%)	2.750	2	0.253
26-35	70 (22.0%)	248 (78.0%)			
36-45	12 (23.5%)	39 (76.5%)			
>45	-	-			
Maternal Educational Level					
Secondary / SPM	5 (12.8%)	34 (87.2%)	2.581	2	0.275
Tertiary / Degree	71 (21.6%)	258 (78.4%)			
MsC / PhD	9 (28.1%)	23 (71.9%)			
Total household income					
B40: < RM4850	27 (13.5%)	173 (86.5%)	21.201	2	<0.001*
M40: RM4850 - RM10,959	40 (25.2%)	119 (74.8%)			
T20: > RM10,959	18 (43.9%)	23 (56.1%)			

(*)- p<0.050

Table 4.4.2 Association between Sociodemographic Factors (Number of Children, Geographical Background, Marital Status) and Experience of Women Having a Companion during COVID-19

Sociodemographic factors	Do you have a companion in labour during COVID-19?		Fisher's Exact test		
	Yes	No	Fisher's exact value	df	p value
			Number of Children		
1	42 (21.1%)	157 (78.9%)	0.537	2	0.806
2-5	43 (21.8%)	154 (78.2%)			
>5	0 (0.0%)	4 (100%)			
			Geographical background		
Urban	71 (24.9%)	214 (75.1%)	15.543	2	<0.001*
Suburban	11 (10.0%)	99 (90.0%)			
Rural	3 (60.0%)	2 (40.0%)			

Marital Status					
Single	0 (0.0%)	3 (100.%)	0.730	2	1
Married	85 (21.5%)	311 (78.5%)			
Divorced	0 (0.0%)	1 (100%)			

(*)- p<0.050

4.4.3 Association between Sociodemographic Factors and Birth Experience of Women during COVID-19

Table 4.4.3 shows the association between sociodemographic factors and birth experience of women during COVID-19. In univariate logistic regression analysis, it was found that there was no significant association between sociodemographic factors (maternal age, maternal educational level, total household income, number of children, geographical background and marital status of women) and birth experience of women during COVID-19. Factors that had a p-value of <0.25 in the univariate logistic regression analysis were entered in the final multivariate logistic regression model. However, there were no factors that had a p-value <0.25 and therefore, we cannot proceed with multivariate regression analysis.

Table 4.4.3 Association between Sociodemographic Factors and Birth Experience of Women during COVID-19

			Simple Logistic Regression			
Socio demographic factors	Negative birth experience during COVID-19	Positive birth experience during COVID-19	Odd Ratio	Lower	Upper	p value
Maternal age (years old)						
18 - 25	9 29.00%	22 71.00%	0.634	[0.243	1.652]	0.351
26 - 35	73 23.00%	245 77.00%	1			
36 - 45	20 39.20%	31 60.80%	1.373	[0.606	3.112]	0.448
Education Level						
Secondary / SPM	12 30.80%	27 69.20%	1.339	[0.649	2.763]	0.430
Tertiary / Degree	82 24.90%	247 75.10%	1			
MsC / PhD	8 25.00%	24 75.00%	1.333	[0.467	3.810]	0.591
Total household income						
B40: < RM4850	45 22.50%	155 77.50%	1			
M40: RM4850 - RM10,959	43 27.00%	116 73.00%	0.560	[0.271	1.157]	0.117
T20: > RM10,959	14 34.10%	27 65.90%	0.783	[0.484	1.269]	0.321

Number of children						
1	41 20.60%	158 79.40%	0	[0	0]	0.999
2-5	61 31.00%	136 69.00%	0	[0	0]	0.999
>5	0 0.00%	4 100.00%	1			
Geographical background						
Urban	73 25.60%	212 74.40%	0.517	[0.085	3.152]	0.474
Suburban	27 24.50%	83 75.50%	1			
Rural	2 40.00%	3 60.00%	1.059	[0.636	1.761]	0.827
Marital Status						
Single	0 0.00%	3 100.00%	1			
Married	101 25.50%	295 74.50%	0	[0	0]	0.999
Divorced	1 100.00%	0 0.00%	0	[0	0]	0.999

Chapter 5: Discussion

5.1 Response

The response was satisfying with the support from the community in the multiple new mother groups and breastfeeding groups. Our target number of respondents was 419 but we only managed to get a total of 400 respondents due to the short period of data collection and we solely rely on online platforms to reach out to the women due to the COVID-19 pandemic.

5.2 Descriptive Analysis

5.2.1 Sociodemographic Factors of Respondents

The findings on respondents' sociodemographic factors truly reflect on the majority group in Malaysia, based on the Department of Statistics. To begin, most of them are Muslim and Malay as Islam is the most widely professed religion in this country while Malay ethnicity is the most predominant ethnic group, particularly in Peninsular Malaysia. Other than that, the vast majority of them are married and aged between 26-35 years old which are also aligning with the fact that more than half of Malaysians women are married whilst the median age of Malaysian is 26 years old.

Facebook and Instagram are two platforms which gave the researchers the most number of respondents to participate with the questionnaire. This might be due to the fact that people between the ages of 25 and 34 years are the biggest demographic group on Facebook and Instagram.

Less than one-tenth of the respondents completed secondary school but a vast percentage of them obtained a degree certificate (82.3%). This is highly influenced by the minimum requirement to work in Malaysia which is a degree certificate in a relevant field.

The dispersion of states where these respondents live is quite diverse. Selangor noted the highest number of respondents (31%) while Putrajaya is the lowest (0.5%) with only 2 respondents who participated in this study. Most of the respondents live in the urban (71.3%) and suburban (27.5) areas. Only a small percentage of them reside in the rural area (1.3%). This might be attributed to internet coverage and access in the urban area which is better and widely available compared with suburban and urban areas.

The total household income group of these respondents lies vastly in the income group of B40 (50%) and M40 (39.8%). It is also fairly common for them to have only one child (49.8%) or 2-5 children (49.3%). Only 1% of the respondents have more than 5 offspring.

Throughout their pregnancy during the pandemic of COVID-19, half of these respondents had delivered their babies through normal vaginal childbirth. While almost another half of them had to undergo a Caesarean section which left about a few of them who needed the assistance of vacuum or forceps during the process. The number of women who had to undergo Caesarean section are higher to be compared with the time before COVID-19. As most of the patients who are suspected of COVID-19 infection will have to deliver through C-section if they appear to have spontaneous labour. The most typical place for delivery among these mothers are the government hospitals.

5.2.2 Perception of Women towards Companion in Labour

According to our study, a majority of respondents preferred their husband or partner instead of their mother to be their companion in labour. This is most likely because most women desire for recognition from their husbands and love to share the joy of having a newborn together. Besides, it is more convenient for their husbands to be present. In contrast, another study in Saudi Arab showed that most women (58%) desired their mothers rather than their husbands to be their companion (Al-Mandeel et al., 2013). This is probably due to different socio demographic backgrounds, culture, beliefs and family relationship.

Most respondents felt the presence of companions brought more positive impacts all the time such as complementing their efforts with encouraging words and providing them physical comfort. Similarly, another study revealed that women in that study received emotional support and felt less pain when their spouses encouraged and held their hands in the labour room (Fathi Najafi et al., 2017). Besides, in present study, most women had the autonomy to follow their birth plan with the presence of a companion. This is mostly because the companion had an insight on the women's birth plan before labour and could stand up for their rights whenever in need. This is supported by another study in Ghana, Guinea and Nigeria that 18.5% women received a

non-consented caesarean section in labour without the presence of a companion ($p>0.05$) (Balde et al., 2020). Thus, the role of companion is indispensable to ensure the women's birth plan is respected all the time.

Apart from that, most respondents agreed that companions could bridge the communication gap between the women and the doctors in labour. This might be due to the companion understanding their needs better and could convey their message to the healthcare providers more efficiently. Otherwise, women are likely to suffer in pain alone as doctors are unable to be present for them day in and day out if no companions are present. This is also proven in another study in which 19.5% of women faced difficulty to access oral fluids and 32.4% of women were not allowed to eat without the presence of a companion ($p<0.05$) (Bohren et al., 2019).

In present study, most respondents felt loved and were pleased with companionship in labour as childbirth is a stressful process. This is supported by another study that sufficient companionship would boost the women's satisfaction in labour, making them feel loved and cared for (42%) (Bangal et al., 2018). Also, there was a higher rate of having complications during labour without the presence of a companion compared with the presence of a companion (72.4% vs 27.6%) in a study in Arba Minch town (Getahun et al., 2020). Thus, it could be concluded that companionship in labour is crucial to support and boost the satisfaction of women during labour to provide a better childbirth experience and outcome. Overall, the women in the present study had a positive perception towards companion in labour.

5.2.3 Birth Experience of Women During COVID-19

According to Table 4.2.3, almost all respondents liked to have a companion in labour but did not manage to have one during COVID-19. In the view of the birth experience of women during COVID-19, more than half of the respondents strongly agreed that they were worried about the risk of infecting COVID-19. This shows that even though, majority of women wanted to have a

labour companion during COVID-19, they are still not willing to risk their labour with increasing the risk of COVID-19 infection. The cross- sectional study on pregnant women's well-being and worry during the COVID-19 pandemic also indicates that the predictors of a high level of pregnant women's worry are the increased level of fear of COVID-19 ($OR = 6.40$, $p < 0.001$) (Mortazavi et al., 2021).

Moreover, there were only few respondents who had the experience of having a companion in labour during COVID-19 and some of their companions were asked to be tested for COVID-19 as a requirement to accompany them. This is mainly due to the strict Standard Operational Procedure (SOP) that suspended husband and baby friendly policies in government hospitals of Malaysia to minimize the exposure of COVID-19 infection (Ministry of Health Malaysia, 2020). This is also proved when the companionship in labour in Nepal started to reduce 3 weeks before the lockdown and continued to decrease by 6·0% (–6·9 to –5·1) during the lockdown. This was because the standard operational procedure restricted or prohibited companions to women in labour to minimise the risk of nosocomial transmission of SARS-CoV-19 (KC et al., 2020).

5.3 Association between Sociodemographic Factors and Perception of Women towards Companion in Labour

According to the regression test, there was no significant association between maternal age and the perception of women towards companions in labour. Similarly, there was also no significant association ($p=0.458$) between maternal age and the preferences of women on having a companion in labour despite it was revealed that women aged 20-29 years old were more aware of the benefits of a proper maternal care in the presence of a companion (Mohammed et al., 2020).

Next, there was no significant association between maternal educational level and the perception of women towards companions in labour. In contrast, another study found that maternal educational level was significantly associated with the perception towards companions in labour. It showed that women with higher educational levels tend to feel embarrassed and preferred to deliver alone (Afulani et al., 2018). Our findings did not meet the similarities with the past study as the perception of women towards companion in labour were not solely dependent on the educational level but the upbringings, family background and religion and beliefs.

Besides, our study also shows that there was no significant association between total household income and the perception of women towards companions in labour. However, another study proved that women with lower total household income were more likely to have total absence of companionship compared to women with higher total household income (OR=2.83, $p<0.001$) (Diniz et al., 2014). The difference may be due to the small sample size in our present findings compared to their study (n=400 vs n=23,879).

In addition, our study also shows that there was no significant association between the number of children and the perception of women towards companions in labour. In contrast, a study in Kenya has asserted that the number of children was significantly associated with the perception of women towards companions in labour ($p<0.05$). It revealed that multiparous (3 births) did not want their partners present as companions because they wanted them to go home and take care of other children than nulliparous women (OR=0.37). Moreover, multiparous women do have previous experiences of labour and childbirth, which is why their perception over the significance of labour companion is different from nulliparous women (Afulani et al., 2018).

Furthermore, our study also shows that there was no significant association between geographical background and the perception of women towards companions in labour. However, another study showed that there was significant association ($p<0.001$) between geographical background and the perception of women towards companions in labour. It was shown that 63.2% of women from rural areas prefer to deliver at home rather than public or private facilities as they can obtain food and water more easily in the presence of a companion, showing that women from rural areas appreciated the presence of a companion to boost their birth satisfaction (Perkins et al., 2019).

Lastly, our study found that through the regression test, there was no significant association between marital status and the perception of women towards companions in labour. But, another study demonstrated that married women were more likely to encourage male involvement as a companion during their delivery compared to women who were unmarried (OR=9.85, p=0.014) (Mohammed et al., 2020). This is likely due to the strong bond and close relationship between married women and their husbands, hence affecting their perception towards the need of their companionship in labour.

5.4 Association between Sociodemographic Factors and Birth Experience of Women during COVID-19

In our study, Chi-square test showed that total household income was significantly associated with the experience of women having a companion during COVID-19. During the COVID-19 pandemic, husbands or family members are unable to present as birth companions due to hospital restrictions while some struggle to scrape a living for basic needs like diapers or milk powder. This was proven by a study which indicated that the employment status of full-time workers dropped dramatically from 40.4% to 25.4% while people

who struggled to make ends meet rose significantly from 25.9% to 50.4% during COVID-19 pandemic ($p<0.001$) (Ahlers-Schmidt et al., 2020).

Besides, Fisher's exact test shows that geographical background was significantly associated with the experience of women having a companion during COVID-19. This might be due to the bias in the implementation of new standard operating procedures in different places and the difference in the severity of COVID-19 spreading in different places. For example, women from COVID-19 hotspots tend to be more cautious and worried about COVID-19 during her labour compared to women from green zones in Malaysia.

There was no significant association between sociodemographic factors (maternal age, maternal educational level, number of children, marital status) and the experience of women having a companion during COVID-19 in Chi-square test and Fisher's exact test. It was due to the hospital prohibition that refrained the women from having a companion in labour. Similarly, a study revealed that the presence of companions started to decline 3 weeks before the lockdown during COVID-19 pandemic and continued to reduce during the lockdown (KC et al. 2020). Meanwhile, in Malaysia, the absence of companion is probably due to the suspended husband and baby friendly policies in government hospitals to minimize the exposure of COVID-19 infection (Ministry of Health Malaysia, 2020).

According to the simple logistic regression test, there was no significant association between all the sociodemographic factors (maternal age, maternal educational level, total household income, number of children, geographical background, marital status) with the birth experience of women during COVID-19. This is mainly due to the enforcement of strict Standard Operational Procedure (SOP) that forbids the women from having labour companion. Therefore, it is safe to say that most woman in Malaysia who gave birth during COVID-19 pandemic encountered a similar birth experience without labour companion, regardless of their sociodemographic factors. Likewise, it was reported that the change in mental status was associated with the COVID-19 pandemic. Women experienced increased stress (63.2%) and increased

anxious thoughts (50.0%) when giving birth alone during the COVID-19 pandemic (Ahlers-Schmidt et al., 2020). Another study proved that the rate of caesarean section increased slightly from 24·5% before COVID-19 to 26·2% during COVID-19 and this was significantly associated with the absence of companion in labour due to the COVID-19 lockdown (p=0.0075) but not associated with the aforementioned sociodemographic factors (KC et al., 2020). Hence, the positive and negative birth experience among women during COVID-19 was significantly associated with the lack of companion in labour during COVID-19 rather than the sociodemographic factors.

Chapter 6: Conclusion

6.1 Summary

In conclusion, the number of women having a companion in labour during COVID-19 pandemic was greatly reduced. The perception of women towards companions in labour was positive. However, their birth experiences were negatively affected by the COVID-19 pandemic regardless of the sociodemographic factors.

6.2 Limitations

The study only focused on the perception and birth experience of women who gave birth during March 2020 to March 2021 towards companions in labour during COVID-19 in Malaysia. Hence, this study could not obtain multi-perspectives from healthcare workers and companions.

Besides, this target respondents did not achieve as the data collection could only be conducted via distribution of Google form instead of face-to-face interview with the women who gave birth from March 2020 to March 2021. This is to abide by the Standard Operating Procedure (SOP) to minimise the spread of the viral infection.

Furthermore, there might be a potential source of selection bias since the sampling method is convenience sampling. The sample may not be representative for the whole population. The sample was limited to the participants who have access to internet connection. There was a risk of non-response during data collection in our research.

6.3 Strength

The questionnaire was made in two languages (Bahasa Malaysia and English) in order to increase the understanding of multiracial respondents towards the questionnaire. Moreover, this study will serve as a ground for assessing the perception and experience of women regarding labour companionship in a state of emergency or in case of pandemic in future. Since, COVID-19 is still a newly discovered virus, a lot of new Standard Operational Procedures are implemented everyday in the effort of minimizing the spread of it. Thus, this study might provide a better understanding about the perception of women and their birth experience during COVID-19, which might help in the implementation process of new SOP.

6.4 Recommendations

6.4.1 Recommendations to stakeholders

Based on our study, It is recommended for the hospitals in Malaysia, regardless of government or private hospital, to revise the labour room guidelines to allow companionship during labour with strict SOP during pandemic.

6.4.2 Recommendations for future works

The results obtained were affected by several limitations throughout the processes and these are some of the ways to overcome them in future work.

Firstly, the study only focused on the perception and birth experience of women who gave birth during March 2020 to March 2021 towards companions in labour during COVID-19 in Malaysia. Hence, this study could not obtain

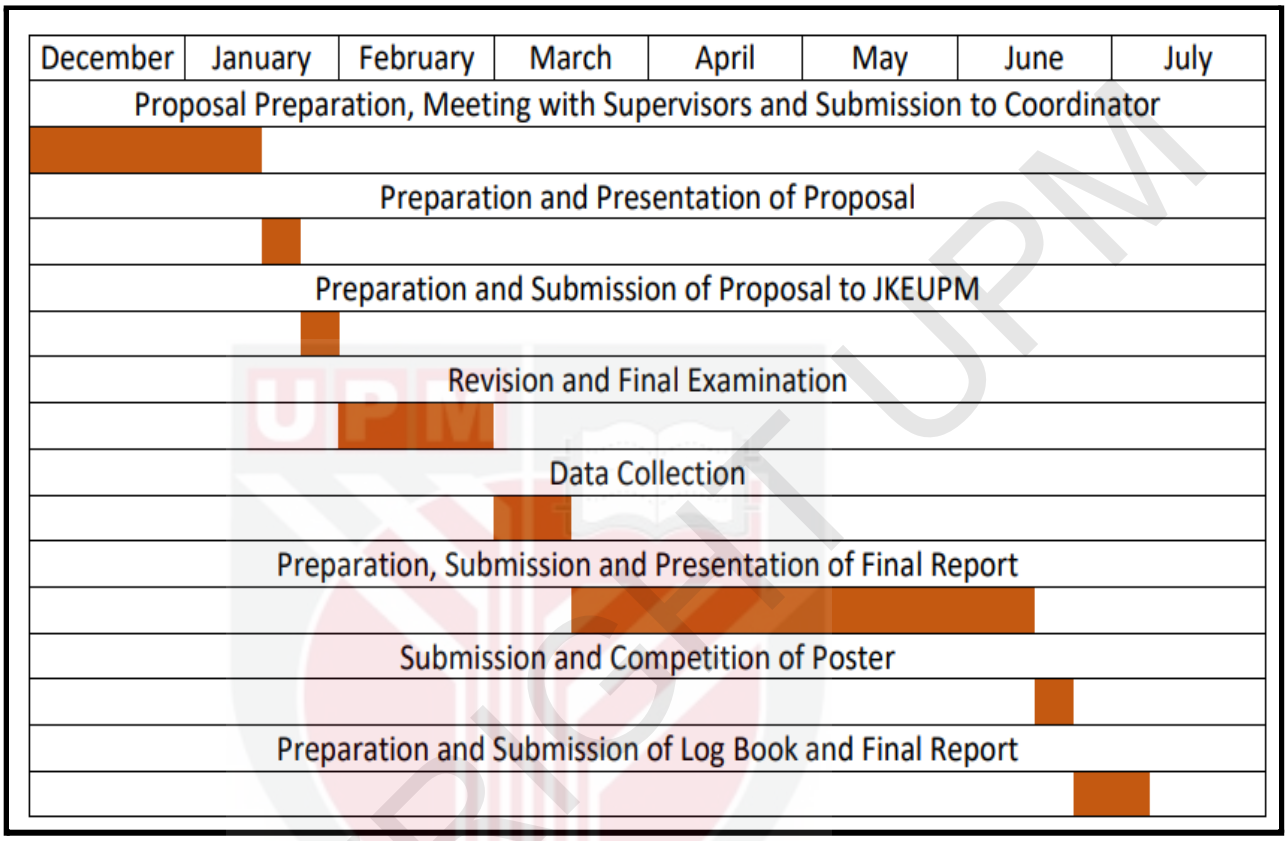
multi-perspectives from healthcare workers and companions. Thus, we would like to suggest to other researchers to extend their research to a multi-perspectives study which involves a bigger population size, provided that enough time had been given to ensure enough power to reach the objectives of the study.

Furthermore, there might be a potential source of selection bias since the sampling method is convenience sampling. The sample may not be representative for the whole population. The sample was limited to the participants with internet connection only. There was a risk of non-response during data collection in our research. So, we would like to suggest future researchers conduct the data collection in the face-to-face manner, in order to prevent selection bias.

Other than that, an option to provide a space for open responses would allow the participants to give their honest opinion on the obstacles to giving birth during this COVID-19 pandemic.This could provide the researchers with better and clearer insights about their worries and concerns of these mothers.

Lastly, giving out a token of appreciation to the respondents would have been helpful in improving the response rate.

Appendix I: Gantt chart



Appendix II: Milestone

DATE	RESEARCH PROJECT ACTIVITY	CUMULATIVE COMPLETION (%)
20/12/20 - 13/01/21	Proposal Preparation and Meeting With Supervisors	
15/01/21	Submission of Proposal to Module Coordinator (2 Copies) (Before 9am)	
16/01/21 - 20/01/21	Preparation For Proposal Presentation	
21/01/21	Proposal Presentation	
29/01/21	Submit Documents for JKEUPM *(NMRR submissions done much earlier)*	
08/02/21 - 28/02/21	Semester 1 Final Examination	
26/03/21 - 09/04/21	Commencement of Semester II and Data Collection	
06/06/21	Submission of Final Report to Module Coordinator (2 Copies)	
15/06/21	Final Report Presentation	
21/06/21	Submission of Poster and Scientific Article	
28/06/21	Poster Presentation	
05/07/21	Submission of Log Book and Hard Bound Copies of Final Report	

Appendix III: Budget list

No	Items	Estimated cost
1.	Printing	RM50.00
2.	Hard cover and binding of thesis	RM100.00
Total		**RM150.00**

Appendix IV: Other sample size calculation

1. Based on the prevalence of women as per their desire for labour companionship (Bangal, Bayaskar, Arjun, Khan, & Thorat, 2018).

$$n = \frac{z^2_{1-\alpha/2}}{d^2} P\,(1-P)$$

n = estimated sample size

Z1- α = Standard error associated with 95% confidence interval = 1.96

P = prevalence of women as per their desire for labour companionship, 0.9

d = precision of study

If precision,d is 0.025,

n = [1.96² × 0.9 × (1-0.9)] / 0.025²

= 553.19

= 553

If precision,d is 0.05,

n = [1.96² × 0.9 × (1-0.9)] / 0.05²

= 138.2976

= 138

So the most optimum number of a sample size to choose was 138 based on population study+ 10% drop out.

Thus, n = 138 + (138 × 10/100)

n = 138 + 13.8

n = 151.8

n = 152

2. Based on the desire for companion in future birth among employed and unemployed women (Afulani, Kusi, Kirumbi, & Walker, 2018).

$$n = \frac{\left\{\left[z(1-a/2)\times\sqrt{2\bar{P}(1-\bar{P})}\right]+\left[z(1-B)\times\sqrt{P1(1-P1)+P2(1-P2)}\right]\right\}^2}{(P1-P2)^2}$$

n = Calculated sample size.

$z_{(1-a/2)}$ = Z statistic for level of confidence of 95% = 1.96

$z_{(1-B/2)}$ = Z statistic for 80% of power = 0.84

P1 = proportion of the desire for companion in future birth among the unemployed women, 0.611

P2 = proportion of the desire for companion in future birth among the employed women, 0.785

P1 = 0.611

P2 = 0.785

P = (P1 + P2) / 2

= (0.611 + 0.785) / 2

= 0.698

$$n = \frac{[1.96\times\sqrt{2(0.698)(1-0.698)} + 0.84\times\sqrt{(0.611)(1-0.611) + (0.785)(1-0.785)}]^2}{(0.785 - 0.611)^2}$$

n = 107.9845

n = 108

n = 108 × 2

= 216

So the most optimum number of a sample size to choose was 216 based on population study+ 10% drop out.

Thus, n = 216 + (216 × 10/100)

n = 216 + 21.6

n = 237.6

n = 238

Appendix V: Reference

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Appendix VI: Questionnaires

This is a study on the perception of women towards companions in labour and their birth experience during COVID-19. The purpose of this study is to determine the association between the sociodemographic background (maternal age, maternal educational level, total household income, number of children, geographical background and marital status) of women in Malaysia and perception of women towards companions in labour and their birth experience during COVID-19. The participants involved should be the women who give birth during the duration starting from March 2020 to March 2021. This study is beneficial to society as it contributes to a better understanding towards the perception of women towards companions in labour and their birth experience during COVID-19 This could create a clear insight towards different perception and experience in this pandemic to the authorities, healthcare workers and the community which eventually may help to improve the service provided to mothers.

Your participation is voluntary and you may withdraw anytime without having to face any penalty or disadvantages. All information and data obtained would be kept confidential and will not be made publicly available, to the extent permitted by law and that the identity of the participant will remain confidential in the event the study results are published; including limitations to the investigator's ability to guarantee confidentiality. The researcher would only serve as investigator instead of healthcare providers.

If you have any enquiries, feel free to contact:

Researchers:

1. Nur Khairina Binti Mohd Zaki (019-615 0087)

2. Tanesvaran A/L Balakrishnen (011-2618 6659)

3. Ang Lin (019-756 6856)

This study has been approved by JKEUPM Ethics Review Panel and may be reached through the following contact number +603-9769 1605 / jkeupm@upm.edu.my if you require more information on your rights as a participant, including grievances and complaints.

English version of questionnaires / Soal selidik versi Bahasa Melayu

Section A: Sociodemographic factors of respondents / Seksyen A: Faktor sosiodemografik responden

1. **Maternal Age (years old) / Umur (tahun)**
   - 18-25
   - 26-35
   - 36-45
   - >45

2. **Race / Bangsa**
   - Malay / Melayu
   - Chinese / Cina
   - Indian / India
   - Other: specify / Lain-lain : nyatakan

3. **Religion / Agama**
   - Islam / Islam
   - Buddha / Buddha
   - Hindu / Hindu
   - Christian / Kristian
   - Others: specify / Lain-lain : nyatakan

4. Education level / Tahap pendidikan

- Informal educational / Pendidikan tidak formal
- Primary / Sekolah Rendah / UPSR
- Secondary / Sekolah Menengah / SPM
- Tertiary /Degree / Diploma/ Ijazah
- MSc / PhD / MSc / PhD

5. Total household income / Jumlah pendapatan isi rumah

- B40: < RM 4850
- M40: > RM4850 - RM 10,959
- T20: > RM 10,959

6. Number of Children / Bilangan anak

- 1
- 2 - 5
- > 5

7. State / Negeri

- Johor
- Kedah
- Kelantan
- Malacca / Melaka
- Negeri Sembilan
- Pahang

- Penang
- Perak
- Perlis
- Sabah
- Sarawak
- Selangor
- Terengganu
- Kuala Lumpur
- Labuan
- Putrajaya

8. Geographical background / Latar belakang geografi

- Urban / Bandar
- Suburban / Luar bandar
- Rural / Pedalaman

9. Marital status / Status perkahwinan:

- Married / Berkahwin
- Single / Bujang
- Divorced / Bercerai
- Single with partner / Berpasangan (belum berkahwin)

10. **Mode of delivery for the pregnancy during COVID-19:** / **Cara kelahiran semasa tempoh COVID-19 :**

- Normal childbirth (Vaginal delivery) / Kelahiran normal (melalui vagina)
- Caesarean section / Pembedahan Caesarean
- Vacuum / forcep / Vakum / forcep

11. **Place for the delivery during COVID-19: / Tempat bersalin semasa tempoh COVID-19:**

- Government hospital / Hospital kerajaan
- Private hospital / Hospital swasta
- Other: specify / Lain-lain : nyatakan

Section B: Perception of women towards companion in labour / Seksyen B: Persepsi wanita terhadap peneman bersalin

1. **I prefer to be accompanied by / Saya lebih suka ditemani oleh:**

- Husband / partner / Suami / Pasangan
- Mother / Ibu
- Others: specify / Lain-lain: nyatakan

2. **Do you have experience of having a companion during labour? / Adakah anda mempunyai pengalaman bersalin dengan peneman?**

- Yes / Pernah
- Never / Tidak pernah

3. **If yes, who is the companion? / Jika ya, siapakah peneman anda?**

- Husband / partner / Suami / Pasangan
- Mother / Ibu
- Others: specify / Lain-lain: nyatakan

4. **What is your perception on companionship during labour? / Apakah yang anda persepsi anda terhadap peneman anda semasa bersalin?**

Rate / Nilaikan

A. Made me feel respected and admired. / Membuatkan saya rasa dihormati dan dikagumi.

- All of the time / Sentiasa
- Most of the time / Kebanyakan masa
- A little / Jarang-jarang
- Not at all / Tidak pernah

B. Praised my efforts with comments like ‘great job’, ‘well done’. / Memuji usaha saya dengan komen seperti ‘bagus’, ‘sangat baik’.

- All of the time / Sentiasa
- Most of the time / Kebanyakan masa

- A little / Jarang-jarang
- Not at all / Tidak pernah

C. Made me feel they were there for me. / Membuatkan saya berasa mereka ada di sana untuk saya.
    - All of the time / Sentiasa
    - Most of the time / Kebanyakan masa
    - A little / Jarang-jarang
    - Not at all / Tidak pernah

D. Offered me physical comfort through touch (Touch may include holding your hand, wiping your face, rubbing your back). / Menawarkan keselesaan fizikal untuk saya melalui sentuhan (memegang tangan, mengelap muka, menggosok belakang).
    - All of the time / Sentiasa
    - Most of the time / Kebanyakan masa
    - A little / Jarang-jarang
    - Not at all / Tidak pernah

E. Spoke to the midwife or doctor about my needs (For example, need to change position or to request pain relief). / Bercakap dengan bidan atau doktor mengenai keperluan saya (Contoh: perlu menukar kedudukan atau permintaan ubat penahan sakit)
    - All of the time / Sentiasa

- Most of the time / Kebanyakan masa
- A little / Jarang-jarang
- Not at all / Tidak pernah

F. Assisted me with coping techniques (eg, giving massages, relaxation and breathing technique). / Membantu saya dengan Teknik untuk mengurangkan kesakitan (contoh, memberi urutan, bertenang dan teknik pernafasan).
   - All of the time / Sentiasa
   - Most of the time / Kebanyakan masa
   - A little / Jarang-jarang
   - Not at all / Tidak pernah

G. Enjoyed having the company of this support person. / Seronok ditemani oleh peneman ini.
   - All of the time / Sentiasa
   - Most of the time / Kebanyakan masa
   - A little / Jarang-jarang
   - Not at all / Tidak pernah

H. Provided me with eye contact when praising my efforts. / Memberi saya kontak mata ketika memuji usaha saya.
   - All of the time / Sentiasa
   - Most of the time / Kebanyakan masa

- A little / Jarang-jarang
- Not at all / Tidak pernah

I. Listened and respected my wishes in relation to me following my birth plan. / Mendengarkan dan menghormati keinginan saya berhubung dengan rancangan kelahiran saya.
   - All of the time / Sentiasa
   - Most of the time / Kebanyakan masa
   - A little / Jarang-jarang
   - Not at all / Tidak pernah

J. Left me feeling satisfied with their support. / Membuatkan saya berpuas hati dengan sokongan mereka.
   - All of the time / Sentiasa
   - Most of the time / Kebanyakan masa
   - A little / Jarang-jarang
   - Not at all / Tidak pernah

Section C: Birth Experience of Women during COVID-19 / Seksyen C: Pengalaman Bersalin Wanita Semasa COVID-19

1. **Would you like to have a companion in labour during COVID-19? / Adakah anda mahu ditemani semasa bersalin ketika pandemik COVID-19?**
   - Yes / Ya
   - No / Tidak

2. **Do you have a companion in labour during COVID-19? / Adakah anda ditemani ketika bersalin semasa pandemik COVID-19?**
   - Yes / Ya
   - No / Tidak

3. **Was your companion asked to be tested for COVID-19 as a requirement to accompany you? / Adakah peneman diarahkan untuk melakukan saringan COVID-19 untuk menemani anda bersalin?**
   - Yes / Ya
   - No / Tidak

4. **Rate your experience below: / Nilaikan pengalaman anda terhadap**

perkara-perkara berikut.

Rate 1 (strongly disagree) - 5 (strongly agree) /

Nilaikan 1 (Sangat tidak bersetuju) - 5 (Sangat bersetuju)

A. I was worried about the risk of infecting COVID-19. / Saya risau akan risiko dijangkiti COVID-19.

B. I had to deliver alone without a companion. / Saya perlu melahirkan anak tanpa peneman.

C. I chose a caesarean delivery since I cannot have a companion in labour room. / Saya memilih untuk bersalin secara caesarean kerana tiada peneman bilik bersalin.

D. I struggled to give birth alone. / Saya berasa sukar untuk bersalin sendirian.

E. I felt more worry and anxiety to give birth alone. / Saya berasa lebih bimbang dan cemas untuk bersalin sendirian.

F. I felt lonely to give birth alone. / Saya berasa keseorangan bersalin sendirian.

G. I was afraid of getting physical or verbal abuse without a companion. / Saya berasa takut sekiranya saya didera secara lisan dan fizikal sekiranya tiada

peneman sewaktu bersalin

H. I could not understand the message given by the doctor or healthcare workers. / Saya tidak faham maklumat yang disampaikan oleh doktor / petugas kesihatan.

I. I could not make the right decision myself in the labour room. / Saya tidak dapat membuat keputusan yang tepat bersendirian di bilik bersalin.

J. I might have a higher chance to deliver by caesarean section during COVID-19. / Saya berkemungkinan tinggi untuk bersalin secara caesarean semasa COVID-19.

Appendix VII: Information sheet and Consent form

English version

JAWATANKUASA ETIKA UNIVERSITI UNTUK PENYELIDIKAN MELIBATKAN MANUSIA (JKEUPM) UNIVERSITI PUTRA MALAYSIA, 43400 UPM SERDANG, SELANGOR, MALAYSIA

FORM 2.4: RESPONDENT'S INFORMATION SHEET AND INFORMED CONSENT FORM

RESPONDENT'S INFORMATION SHEET AND INFORMED CONSENT FORM

Please read the following information carefully and do not hesitate to discuss any questions you may have with the researcher.

1. STUDY TITLE :

Companion in labour: Perception and Attitudes of Women Deliver during COVID-19

2. INTRODUCTION:

This study is an undergraduate research project of medical students of Universiti Putra Malaysia that will be conducted from December 2020 until July 2021 among the women who gave birth between March 2020 to March 2021. A sample of 337 respondents will be studied on their perception and attitudes towards companionship in labour during COVID-19. This research is conducted

by three medical students and is supervised by two lecturers of the Department of Obstetrics and Gynaecology.

The outbreak of COVID-19 pandemic has changed the hospital policy. Women are not allowed to have a companion during labour in the government hospitals in Malaysia to reduce the spread of COVID-19. However, the World Health Organization emphasizes that the pandemic should not violate the rights of women to have a companion in labour. Thus, this study is significant to determine the perceptions and attitudes of women towards companionship during labour in COVID-19 among women in Malaysia.

Your participation in this study is based on volunteerism. Should you choose not to answer any irrelevant questions or need to withdraw from this study at any given time, you are free to do so.

3. **WHAT WILL YOU HAVE TO DO?**

You are required to fill in a questionnaire which consists of 3 sections:

- Section A: Sociodemographic factors of respondents
- Section B: Perception and attitude of women towards companion in labour
- Section C: Perception and attitude of women on companion during COVID-19

4. WHO SHOULD NOT PARTICIPATE IN THE STUDY?

Any respondents who are not fulfilling the inclusive criterias mentioned below, will be excluded from participating

- Women who give birth in between the date of March 2020 until March 2021 in Malaysia
- Women who understand Bahasa Melayu and English
- Women who give consent to participate in this research

5. WHAT WILL BE THE BENEFITS OF THE STUDY:

A) TO YOU AS THE SUBJECT?

The researchers aim to instil the awareness on the importance of having a companion during labour to help the women during the childbirth process.

B) TO THE INVESTIGATOR?

The information collected from this research will enable the researchers to gain a better insight into the sociodemographic background associated with the perception of women towards companion in labour and their birth experience during COVID-19 in Malaysia. However, the researchers would not be involved as healthcare providers or consultants.

6. WHAT ARE THE POSSIBLE RISKS?

The participants will not face any risks throughout the research as the research is conducted online without face-to-face interactions. All information relating to the participants is confidential and will not be revealed to any other parties.

7. WILL THE INFORMATION THAT YOU PROVIDE AND YOUR IDENTITY REMAIN CONFIDENTIAL?

Yes. All information relating to the participants will not be revealed to any other parties. The results of the data obtained will be reported in an aggregated/collective manner thus specific individual information will not be disclosed. All the information of respondents would be transferred to the laptop of supervisors and would be kept safely for 3 years before it is destroyed permanently.

Please initial here if you have read and understood the contents of this page

___

8. WHO SHOULD YOU CONTACT IF YOU HAVE ADDITIONAL QUESTIONS DURING THE COURSE OF THE RESEARCH?

DR RIMA ANGGRENA BINTI DASRILSYAH

Specialist and Clinical Lecturer

Obstetrics And Gynaecology Department,

Faculty Of Medicine And Health Science,

University Putra Malaysia

rimadasril@upm.edu.my

019-248 9878

DR AMILIA AFZAN MOHD JAMIL

Specialist and Clinical Lecturer

Obstetrics And Gynaecology Department,

Faculty Of Medicine And Health Science,

University Putra Malaysia

amilia@.upm.edu.my

019-210 7419

ANG LIN

Second Year Medical Student

Faculty of Medicine and Health Sciences

Universiti Putra Malaysia

201142@student.upm.edu.my

019-756 6856

NUR KHAIRINA BINTI MOHD ZAKI

Second Year Medical Student

Faculty of Medicine and Health Sciences

Universiti Putra Malaysia

200736@student.upm.edu.my

019-615 0087

TANESVARAN A/L BALAKRISHNEN

Second Year Medical Student

Faculty of Medicine and Health Sciences

Universiti Putra Malaysia

202101@student.upm.edu.my

011-2618 6659

Please initial here if you have read and understood the contents of this page

___

9. CONSENT

I ……..……. Identity Card No. ……..……
address…….……
……. .. ……..…. hereby voluntarily agree to take part in the research stated above *(clinical / drug trial / video recording / focus group / interview-based / questionnaire-based).

I have been informed about the nature of the research in terms of methodology, possible adverse effects and complications (as written in the Respondent's Information Sheet). I understand that I have the right to withdraw from this research at any time without giving any reason whatsoever. I also understand that this study is confidential and all information provided with regard to my identity will remain private and confidential.

I *(wish / do not wish) to know the results related to my participation in the research

I *(agree / do not agree) that the images / photos / video recordings / voice recordings related to me be used in any form of publication or presentation (if applicable)

* delete where necessary

Signature: ……..……. Signature ……..…….
(Respondent) (Witness)

Date: ……..….. Name :……..
I/C No. :……

I confirm that I have explained to the respondent the nature and purpose of the above-mentioned research.

Date ……..……. Signature ……..…….
(Researcher)

Malay version:

JAWATANKUASA ETIKA UNIVERSITI UNTUK PENYELIDIKAN MELIBATKAN MANUSIA (JKEUPM) UNIVERSITI PUTRA MALAYSIA, 43400 UPM SERDANG, SELANGOR, MALAYSIA

BORANG 2.4: PENERANGAN DAN PERSETUJUAN RESPONDEN

Sila baca maklumat berikut dengan teliti. Sekiranya anda mempunyai sebarang pertanyaan, sila kemukakan kepada penyelidik

1.TAJUK KAJIAN

Peneman ketika bersalin: Persepsi dan Sikap Wanita Yang melahirkan Anak semasa COVID-19

2. PENGENALAN

Kajian ini merupakan projek yang dijalankan oleh pelajar Sarjana Muda Doktor Perubatan Universiti Putra Malaysia yang berlangsung dari Disember 2020 sehingga Julai 2021 di kalangan wanita yang melahirkan anak dalam tempoh Mac 2020 hingga Mac 2021. Jumlah peserta yang terlibat dalam kajian ini adalah lebih kurang 337 peserta. Projek penyelidikan ini dijalankan oleh tiga orang pelajar Doktor Perubatan dan diselia oleh dua orang pensyarah perubatan yang mempunyai pengkhususan dalam bidang Obstretrik dan Ginekologi.

Pandemik COVID-19 yang sedang berlaku menyebabkan polisi di bilik bersalin di hospital kerajaan berubah. Wanita yang ingin melahirkan anak di hospital kerajaan tidak boleh ditemani oleh sesiapa di dewan bersalin, untuk mengekang penularan wabak COVID-19. Namun, World Health Organization (WHO) berpandangan, jangkitan COVID-19 tidak seharusnya menggugat hak wanita untuk memiliki peneman sewaktu melahirkan anak. Oleh itu, kajian ini adalah bertujuan untuk memantau persepsi dan sikap terhadap kehadiran peneman semasa melahirkan anak dalam tempoh COVID-19 dalam kalangan para wanita di Malaysia.

Penyertaan peserta adalah secara sukarela. Anda diizinkan untuk tidak menjawab soalan yang tidak berkenaan atau dibenarkan untuk menarik diri daripada kajian ini pada bila-bila masa.

3. APAKAH YANG PERLU ANDA LAKUKAN?

Soal selidik ini mengandungi Seksyen A,B dan C. Anda dikehendaki untuk menjawab setiap seksyen di mana:

- Seksyen A: Faktor sosiodemografik responden
- Seksyen B: Persepsi dan sikap bersalin bersama peneman
- Seksyen C: Persepsi dan sikap terhadap peneman bersalin semasa COVID-19

4. SIAPA YANG TIDAK BOLEH MENYERTAI KAJIAN INI?

Responden yang **tidak** memenuhi syarat di bawah akan dikecualikan daripada kajian ini:

- Wanita yang melahirkan anak dalam tempoh Mac 2020 hingga Mac 2021 di Malaysia
- Wanita yang memahami Bahasa Inggeris atau Bahasa Melayu
- Wanita yang memberi persetujuan untuk menjadi responden untuk kajian ini

5. APAKAH FAEDAH MENYERTAI KAJIAN INI?

A) KEPADA ANDA SEBAGAI RESPONDEN?

Kajian ini diharapkan dapat memupuk kesedaran kepada tentang kepentingan peneman semasa bersalin dalam membantu wanita semasa kelahiran.

B) KEPADA PENYELIDIK?

Data yang diperolehi daripada kajian ini membolehkan para penyelidik mengkaji faktor sosiodemografi yang berkaitan dengan persepsi wanita terhadap peneman bersalin dan pengalaman mereka ketika bersalin sewaktu COVID-19 berlangsung dengan baik. Walau bagaimanapun, penyelidik yang menjalankan kajian tidak akan terlibat sebagai penasihat kesihatan

6. ADAKAH IA BERISIKO?

Tiada sebarang risiko yang akan ditanggung oleh pihak responden yang mengambil bahagian dalam menjawab soal selidik ini kerana kajian ini dijalankan secara dalam talian tanpa melibatkan interaksi bersemuka bersama para penyelidik. Segala informasi berkenaan peserta adalah sulit dan tidak akan dikemukakan kepada mana-mana pihak.

7. ADAKAH MAKLUMAT DAN IDENTITI SAYA KEKAL RAHSIA?

Ya, semua maklumat yang diberikan oleh pihak responden akan disimpan dan tidak akan didedahkan kepada mana-mana pihak yang tidak berkepentingan. Keputusan kajian ini akan dilaporkan secara berkumpulan, maka maklumat individu tidak akan didedahkan. Semua maklumat yang telah diberikan oleh responden akan dipindahkan ke komputer penyelia dan maklumat tersebut akan disimpan dengan rapi selama 3 tahun sebelum ia dimusnahkan secara kekal.

Sila tandatangan di sini sekiranya anda telah membaca dan memahami kandungan halaman ini ____

8. SIAPA YANG SAYA PERLU HUBUNGI SEKIRANYA SAYA MEMPUNYAI SEBARANG PERSOALAN TAMBAHAN SEMASA MENGIKUTI PENYELIDIKAN INI?

DR RIMA ANGGRENA BINTI DASRILSYAH

Specialist and Clinical Lecturer

Obstetrics And Gynaecology Department,

Faculty Of Medicine And Health Science,

University Putra Malaysia

rimadasril@upm.edu.my

019-248 9878

DR AMILIA AFZAN MOHD JAMIL

Specialist and Clinical Lecturer

Obstetrics And Gynaecology Department,

Faculty Of Medicine And Health Science,

University Putra Malaysia

amilia@.upm.edu.my

019-210 7419

ANG LIN

Pelajar Perubatan Tahun Kedua

Fakulti Perubatan dan Sains Kesihatan

Universiti Putra Malaysia

201142@student.upm.edu.my

019-756 6856

NUR KHAIRINA BINTI MOHD ZAKI

Pelajar Perubatan Tahun Kedua

Fakulti Perubatan dan Sains Kesihatan

Universiti Putra Malaysia

200736@student.upm.edu.my

019-615 0087

TANESVARAN A/L BALAKRISHNEN

Pelajar Perubatan Tahun Kedua

Fakulti Perubatan dan Sains Kesihatan

Universiti Putra Malaysia

202101@student.upm.edu.my

011-2618 6659

Sila tandatangan di sini sekiranya anda telah membaca dan memahami kandungan halaman ini ____

9. PERSETUJUAN

Saya ……..… No. Kad Pengenalan. ……..……beralamat…… …… ……..
dengan ini bersetuju untuk mengambil bahagian secara sukarela dalam penyelidikan yang tersebut di atas *(kajian klinikal / percubaan ubat-ubatan / rakaman video / kumpulan sasaran / temuduga / soal selidik).

Saya telah diberi penjelasan secara menyeluruh mengenai penyelidikan ini dari segi metodologi, risiko dan komplikasi (seperti tertulis pada Helaian Penerangan Responden). Saya memahami bahawa saya berhak menarik diri dari penyelidikan ini pada bila-bila masa tanpa memberi sebarang alasan.Saya juga memahami bahawa sebarang maklumat yang berkaitan identiti saya akan dirahsiakan.

Saya *(berminat / tidak berminat) untuk mengetahui keputusan kajian yang melibatkan saya.

Saya *(setuju / tidak bersetuju) untuk imej / gambar / rakaman video / rakaman suara digunakan dalam apa jua bentuk penerbitan atau pembentangan. (sekiranya berkaitan).

*potong yang tidak berkenaan

Tandatangan ……..…… Tandatangan ……..…….
(Responden) (Saksi)
Tarikh :…….. Nama :……..
No. K/P:……..

Saya mengesahkan bahawa saya telah menerangkan kepada responden ini sifat dan tujuan penyelidikan yang tersebut di atas.

Tarikh ……..…… Tandatangan……..…….
(Penyelidik)

Appendix VIII: JKEUPM Approval Letter

JKEUPM APPROVAL LETTER
Ref. no: UPM/TNCPI/RMC/JKEUPM/1.4.18.2 (JKEUPM)
Date: 24 March 2021

Dear Prof./Dr./Mr./Ms.,

APPLICATION FOR JKEUPM ETHICAL CLEARANCE: APPROVED

With reference to the above, I am pleased to inform you that your application for ethical clearance for the research project entitled **'Companion in Labour: Perception and experience of Women Deliver during COVID-19'** has been approved.

Please note that the official letter of approval will be issued as soon as possible. However, the ethical clearance is considered effective from the date of this email, and you may now proceed with your research.

Kindly remind the ethical approval is required in the case of amendments/ changes to the study documents/ study sites/ study team.

Researchers should also complete a Study Final Report upon study completion. The form can be obtained from the Ethics Committee for Research Involving Human Subjects (JKEUPM) website (http://www.tncpi.upm.edu.my/faildokumen).

If you have any enquiries, please contact Ms. Nurulhasanah Ishak (03-97691605) or Ms. Nor Ellia Abd Ajis (03-97691244).

Note: Please use this reference number for any transaction:- JKEUPM-2021-077

Thank you.

Yours faithfully,
Prof. Dr. Zamberi Sekawi
Chair
Ethics Committee for Research Involving Human Subjects
Universiti Putra Malaysia

JAWATANKUASA ETIKA UNIVERSITI UNTUK PENYELIDIKA MANUSIA (JKEUPM)

UNIVERSITI PUTRA MALAYSIA, 43400 UPM SERDANG, SELANGOR, MALAYSIA

Appendix IX: FORM 3.2 STUDY FINAL REPORT

1.	JKEUPM Ref. No.	JKEUPM-2021-077
2.	Study Title	PERCEPTION OF WOMEN TOWARDS COMPANION IN LABOUR AND THEIR BIRTH EXPERIENCE DURING COVID-19
3.	i. Principal investigator a. Name b. Address c. Tel.No d. Email ii. List of co-investigators	i.DR RIMA ANGGRENA BINTI DASRILSYAH Specialist and Clinical Lecturer Obstetrics And Gynaecology Department, Faculty Of Medicine And Health Science, University Putra Malaysia 019-248 9878 rimadasril@upm.edu.my DR AMILIA AFZAN MOHD JAMIL Specialist and Clinical Lecturer Obstetrics And Gynaecology Department, Faculty Of Medicine And Health Science, University Putra Malaysia 019-210 7419 amilia@.upm.edu.my ii.ANG LIN Second Year Medical Student Faculty of Medicine and Health Sciences Universiti Putra Malaysia 019-756 6856 201142@student.upm.edu.my NUR KHAIRINA BINTI MOHD ZAKI Second Year Medical Student Faculty of Medicine and Health Sciences Universiti Putra Malaysia 019-615 0087 200736@student.upm.edu.my

		TANESVARAN A/L BALAKRISHNEN Second Year Medical Student Faculty of Medicine and Health Sciences Universiti Putra Malaysia 011-2618 6659 202101@student.upm.edu.my
4.	Name Of Funding Agency	-
5.	Study Site	In Malaysia via social media platforms such as Facebook, Whatsapp and Instagram.
6.	Total number of eligible subjects in study site	487,957
7.	Recruitment of subjects in study site i. Number of participants recruited: ii. Number of participants completing trial/ study: iii. Proposed in original application: iv. Number of withdrawals from trial to date due to: a) withdrawal of consent b) no response from participants c) loss to follow-up d) death (not the primary outcome) Total study withdrawals: v. Number of treatment failures to date (Prior to reaching primary outcome) due to: a) adverse events b) lack of efficacy Total treatment failures:	i. 434 ii. 434 iii. 419 iv. 0 v. 0
8.	Duration of study	6 months
9.	Protocol Violation or Deviation	-
10.	Executive summary *(Summary of research background, objectives, methodology, findings and*	**Introduction:** COVID-19 has caused drastic changes in the healthcare standard operating procedure to reduce the COVID-19 spread. Consequently, this