JURNAL KESEHATAN
JURNAL ILMU-ILMU KEPERAWATAN, KEBIDANAN, FARMASI & ANALIS KESEHATAN
DOI : https://doi.org/10.52221/jurkes
JURKES
ISSN : 2089-3906

The Relationship between Physical Activity and Readiness for Childbirth in Pregnant Women at the Cimalaka Community Health Center, Sumedang Regency

Dinda Indika Putri[1], Emi Lindayani[1], Amanda Puspanditaning Sejati[1]
[1]Universitas Pendidikan Indonesia, Sumedang, Indonesia

Article Information

Revised: February 2026
Available online: June 2026

Keywords

Physical Activity, Pregnant Women, Childbirth Preparation

Correspondence

E-mail : dindaindikaputri04@upi.edu

ABSTRACT

Birth preparation is an essential factor in reducing the risk of complications that may lead to maternal mortality during labor. Physical activity during pregnancy is believed to enhance maternal readiness for childbirth, both physically and psychologically. This study aimed to determine the relationship between physical activity and childbirth readiness among pregnant women at Cimalaka Primary Health Center, Sumedang Regency. This research employed a quantitative correlational design with a cross-sectional approach. The study population consisted of all pregnant women registered at the health center, with a total sample of 185 respondents selected through accidental sampling. Data were collected using the Pregnancy Physical Activity Questionnaire (PPAQ) to assess the level of physical activity and a childbirth readiness questionnaire. Data analysis included descriptive statistics to portray respondent characteristics and inferential analysis using the Spearman correlation test due to non-normally distributed data. The results showed a p-value of 0.074 (> 0.05), indicating that there was no significant relationship between physical activity and childbirth readiness. The correlation coefficient (r = 0.132) demonstrated a very weak positive relationship. These findings suggest that maternal readiness for childbirth is more strongly influenced by other factors, such as knowledge, access to information, previous childbirth experience, husband's support, and participation in antenatal education classes,

which may have greater cognitive and psychosocial impacts compared to daily physical activity.

INTRODUCTION

Pregnancy is an important period in a woman's life during which she undergoes physiological and psychological changes, as well as shifts in her status within the household and society (Kowalska, 2023). These changes whether physical, anatomical, or psychological occur progressively as gestational age increases and continue through childbirth. They include alterations in the reproductive, metabolic, hematological, cardiovascular, respiratory, urinary, gastrointestinal, and musculoskeletal systems, as well as changes in the breasts, skin, and emotional state (Natalia et al., 2022). To ensure a healthy pregnancy, women must maintain balanced nutrition, adopt healthy lifestyle behaviors, and engage in regular physical activity (Septiana et al., 2024). Physical activity plays a key role in supporting a healthy pregnancy, optimal fetal development, smoother labor, and faster postpartum recovery (Szumilewicz, 2018). This is supported by the findings Semmagga (2021), which show that prenatal exercise is associated with smoother normal labor ($p = 0.000$).

Engaging in regular physical activity during pregnancy improves muscle strength and posture, and reduces discomfort such as back pain and swelling (Pangesti et al., 2024). Physical activity also enhances cardiovascular and respiratory health, reduces obesity, increases life expectancy, and lowers the risk of gestational diabetes, preeclampsia, and preterm birth. Furthermore, exercise helps reduce the risk of postpartum depression and the likelihood of cesarean delivery, with no evidence of increased fetal death or adverse neonatal outcomes (Ahmadi et al., 2021; Bull et al., 2020; Makmun et al., 2022). Rahmawati (2019) similarly reported that low physical activity increases the risk of cesarean section by 1.63 times ($p = 0.229$), indicating a moderate positive relationship. Such findings have contributed to changing outdated views regarding physical activity during pregnancy.

The American College of Obstetricians and Gynecologists (ACOG) in 2015 emphasized that insufficient physical activity during pregnancy constitutes risky behavior for both mother and fetus. Prolonged bed rest or inactivity may increase the risk of venous thromboembolism, bone demineralization, and overall physical decline. To achieve optimal health outcomes, physical activity should be carried out consistently before, during, and after pregnancy. However, many women reduce activity in early pregnancy due to fear of miscarriage (Szumilewicz, 2018).

The World Health Organization (WHO) recommends that pregnant and postpartum women without medical contraindications engage in at least 150 minutes of moderate-intensity aerobic activity per week, combined with muscle-strengthening activities and light stretching. Women who previously exercised at vigorous intensity may continue such routines according to their physical condition. These recommendations are strong and evidence-based (Bull et al., 2020).

A study by Alizadeh-Dibazari et al., (2024) revealed that most pregnant women prefer safe physical activities such as household chores, walking, and prenatal exercise, particularly in the third trimester. These activities are carried out with attention to safety measures including

maintaining hydration, avoiding fatigue, heat, and strenuous movements. Pregnant women also consider perineal massage, pelvic tilting, and stepping exercises effective for childbirth preparation. Maintaining proper posture during activities and rest such as sleeping on the left side, sitting and standing correctly, and safe stair climbing—is also emphasized. Nasir (2024) found that prenatal exercise enhances cognitive and psychological readiness for childbirth ($p < 0.05$), indicating that appropriate physical activity supports better childbirth preparation.

Childbirth preparation encompasses psychological readiness, physical readiness, financial planning, and birth-related arrangements, including selection of delivery place, healthcare provider, birth companion, transportation, and decision-maker (Nurbaya, 2023). The childbirth experience involve physical, psychological, emotional, social, and cultural aspects, requiring comprehensive preparation. Akca et al. (2017) demonstrated that structured childbirth education effectively increases maternal satisfaction by reducing pain ($p = 0.01$), improving communication ($p = 0.001$), enhancing decision-making participation ($p < 0.001$), and raising SIL-Ger satisfaction scores ($p < 0.01$). Inadequate childbirth preparation increases the risk of preterm labor, prolonged labor, obstetric complications, and postpartum hemorrhage, contributing to maternal mortality (Mengmei et al., 2022).

Globally, approximately 800 women die each day from preventable pregnancy and childbirth-related causes (WHO, 2020). In 2020, nearly 95% of maternal deaths occurred in low- and middle-income countries, with 87% occurring in Sub-Saharan Africa and South Asia. The greatest decline in maternal mortality between 2000 and 2020 occurred in Eastern Europe and South Asia, with reductions of 70% and 67% respectively. About 73% of maternal deaths from 2003 to 2009 were due to direct obstetric complications such as postpartum hemorrhage, preeclampsia, eclampsia, embolism, and unsafe abortion, while 27% were attributed to indirect causes such as pre-existing heart disease, HIV, severe anemia, diabetes, and hepatitis (Singh et al., 2024).

In Indonesia, maternal mortality declined from 390 per 100,000 live births in 1991 to 189 in 2020. Despite this progress, further efforts are needed to meet the Sustainable Development Goals target of 70 maternal deaths per 100,000 live births by 2030 (Kemenkes RI, 2024). One factor contributing to this progress is improved maternal preparedness for childbirth (Alamrew et al., 2024). In West Java, the maternal mortality rate reached 187 per 100,000 live births in 2020 (BPS, 2020). In 2024, Sumedang Regency recorded 21 maternal deaths (Dinas Kesehatan Sumedang, 2024).

A preliminary study in Cimalaka Primary Health Center documented 345 pregnant women and two maternal deaths due to hemorrhage in June 2025. Interviews with six pregnant women revealed that half did not engage in physical activity during pregnancy, while the others routinely walked 1–3 times per week. Two women (33.33%) displayed limited childbirth preparation, focusing only on finances and delivery location, whereas four (66.67%) performed more comprehensive preparation. Interviews with the midwife also indicated that antenatal classes—including health education, nutritious food

distribution, and prenatal exercise—are routinely conducted, although many women still present with weak physical conditions during labor.

Previous studies have explored related topics but differ in variables and focus. Ahmady (2024) examined physical activity intensity and low back pain. Farwati (2019) explored antenatal class participation and childbirth readiness. Sari (2016) investigated yoga and maternal readiness; Hartinah et al., (2019) examined physical activity in relation to constipation. Yuliyanti et al., (2020) studied knowledge of high-risk pregnancy. Attallah et al., (2022) assessed physical activity and preeclampsia risk, and Jundyah (2024) linked physical activity to labor duration.

Although many studies highlight the benefits of physical activity, research specifically examining its relationship with childbirth readiness especially in Cimalaka, Sumedang remains limited. Therefore, this study aims to determine the relationship between physical activity and childbirth readiness among pregnant women at Cimalaka Primary Health Center.

METHOD

This study uses a quantitative research design using a correlational approach with a cross-sectional method. The study population consisted of all pregnant women registered at the Cimalaka Primary Health Center, totaling 345 individuals. The sample size was calculated using the Slovin formula with a 5% margin of error, resulting in 185 respondents. The inclusion criteria were pregnant women who were registered and undergoing antenatal examinations at the Cimalaka Primary Health Center, able to communicate effectively, free from pregnancy complications, and willing to provide informed consent. The sampling technique used was accidental sampling.

The research instruments consisted of the Pregnancy Physical Activity Questionnaire (PPAQ) developed by Chasan-Taber et al. (2004) to measure the level of physical activity among pregnant women, and a childbirth preparation questionnaire adapted from Yuliantini (2020). Both instruments had previously been tested for validity and reliability; therefore, no further validity or reliability testing was conducted in this study. Data analysis included univariate analysis to describe physical activity levels and childbirth preparation levels, as well as bivariate analysis to examine the relationship between variables using the Spearman rank correlation test in the JASP software.

The hypotheses of this study are formulated as follows. The null hypothesis (H_0) states that there is no significant relationship between physical activity and birth preparedness among pregnant women at Puskesmas Cimalaka, Sumedang Regency. In contrast, the alternative hypothesis (H_a) posits that there is a significant relationship between physical activity and birth preparedness among pregnant women in the same setting. These hypotheses were tested to determine whether physical activity contributes to variations in the level of preparedness for childbirth.

RESULTS AND DISCUSSION

Univariate Analysis

Tabel 1. Physical Activity Distribution

Physical Activity Categorise	Frequency	Percentage (%)
Sedentary	39	21.1%
Mild	52	28.1%
Moderate	71	38.4%
Heavy	23	12.4%
Total	**185**	**100%**

Source : Primary Data (2025)

Based on Table 1, it is shown that nearly half of the pregnant women at the Cimalaka Primary Health Center had a moderate level of physical activity, with 71 respondents (38.4%) out of the total sample. A total of 39 respondents (21.1%) were in the sedentary category. Meanwhile, 52 respondents (28.1%) had a light level of physical activity, and 23 respondents (12.4%) were classified as having a vigorous level of physical activity.

Table 2. Preparation Childbirth Distribution

Preparation Childbirth Categorise	Frequency (f)	Percentage (%)
Well-prepared	143	77.3%
Adequately prepared	42	22.7%
Less prepared	0	0
Total	**185**	**100%**

Source : Primary Data (2025)

Based on Table 2, it can be seen that birth preparedness among pregnant women at Puskesmas Cimalaka is predominantly in the well-prepared category, with a total of 143 respondents (77.3%). A total of 42 pregnant women (22.7%) were categorized as adequately prepared. Meanwhile, none of the respondents fell into the less prepared category.

Bivariate Analysis

The normality test conducted using the Kolmogorov–Smirnov test showed that one of the variables was not normally distributed. Due to the presence of a non-normally distributed variable, a non-parametric correlation test, namely the Spearman Rank correlation test, was used to analyze the relationship between variables in this study. The analysis was performed using JASP for Windows version 0.95.2.0. The following are the results of the correlation analysis based on the respondents' data:

Table 3. Distribution of the Relationship between Physical Activity and Readiness for Childbirth in Pregnant Women at the Cimalaka Community Health Center

Physical Activity	Preparation Childbirth						Total		Correlation Coefficient (r)	p-value
	Well-prepared		Adequately prepared		Less prepared					
	n	%	n	%	n	%	n	%		
Sedentary	29	15.7%	10	5.4%	0	0	39	21.1%	0.132	0.074
Mild	37	20%	15	8.1%	0	0	52	28.1%		
Moderate	56	30.3%	15	8.1%	0	0	71	38.4%		
Heavy	21	11.%	2	1.1%	0	0	23	12.4%		
Total	**143**	**77.3%**	**42**	**22.7%**	**0**	**0**	**185**	**100%**		

Source : Primary Data (2025)

Based on Table 3, which presents the distribution of birth preparedness across different levels of physical activity, it was found that among pregnant women in the sedentary activity group (39 respondents), 29 were categorized as well-prepared and 10 were categorized as adequately prepared. In the light physical activity group (52 respondents), 37 were classified as well-prepared and 15 as adequately prepared. For the moderate physical activity group (71 respondents), nearly all were well-prepared, with 56 respondents in this category and 15 categorized as adequately prepared. In the heavy physical activity group (23 respondents), 21 women were well-prepared for childbirth, while only 2 were adequately prepared. Overall, the heavy physical activity category demonstrated the highest proportion of well-prepared mothers, whereas the light activity category showed the lowest proportion relative to other activity levels.

The correlation analysis between physical activity and birth preparedness among 185 respondents showed a Spearman's rho coefficient of 0.132 with a p-value of 0.074 ($p > 0.05$). These results indicate that there is no statistically significant relationship between physical activity and birth preparedness, although a very weak positive correlation was observed. Based on these findings, H0 is accepted and H1 is rejected.

Physical Activity in Pregnant Women

The results of the study showed that the majority of pregnant women at the Cimalaka Health Center had a moderate level of physical activity, totaling 71 respondents (39.9%). In addition, 52 respondents (29.2%) engaged in light physical activity, 39 respondents (21.9%) were classified as sedentary, and only 23 respondents (12.9%) performed heavy physical activity. The physical activities reported in this study consisted of daily routines typically performed by pregnant women, such as doing household chores, preparing meals, cleaning the house, washing clothes, interacting with pets, using gadgets, as well as engaging in light exercise such as walking and attending pregnancy exercise classes. Most of these activities fall within the light-to-moderate intensity range, which corresponds to the largest proportion of categories found in this study. This distribution indicates that although some respondents demonstrated adequate levels of physical activity, there were still pregnant women whose activity levels were low or predominantly sedentary.

These findings are consistent with Ahmady (2024), who similarly reported that most pregnant women had moderate intensity physical activity, accounting for 48 respondents (63.2%). This aligns with the 2018 Physical Activity Guidelines for Americans issued by the U.S. Department of Health and Human Services, which recommend that pregnant women engage in at least 150 minutes of moderate-intensity physical activity per week throughout pregnancy and the postpartum period. According to the American College of Obstetricians and Gynecologists (2020), pregnant women are advised to perform physical activity under the supervision of healthcare providers such as obstetricians or midwives to ensure safety during pregnancy. Consultation is recommended to adjust the type and intensity of activity according to gestational age and the postpartum phase. Evidence from various studies suggests that safe and beneficial forms of exercise during pregnancy include walking, stationary cycling, aerobic exercises, dancing, and stretching routines. In general, physical activity is considered safe for pregnant women and may be performed with appropriate modifications, provided that no complications or medical contraindications are present.

Pregnant Women's Readiness for Childbirth

The results of this study regarding birth preparedness among pregnant women show that the majority of respondents demonstrated a high level of readiness. Specifically, 143 respondents (77.3%) were categorized as well-prepared, while 42 respondents (22.7%) were classified as adequately prepared. Overall, these findings indicate that birth preparedness among the study population was high, reflecting a good level of awareness and planning among pregnant women. The high proportion of respondents categorized as "well-prepared" suggests that most pregnant women had fulfilled the essential components of the Birth Preparedness and Complication Readiness (BPCR) concept. BPCR is a critical element of maternal health services aimed at reducing morbidity and mortality among mothers and infants. According to Alamrew et al., (2024), BPCR emphasizes the importance of comprehensive planning, including determining the place of delivery, ensuring transportation availability, preparing financial resources, organizing delivery supplies, and recognizing danger signs during pregnancy and childbirth. Such preparedness ensures that women can quickly obtain medical assistance if complications arise. This principle aligns with the Indonesian government's program, Perencanaan Persalinan dan Pencegahan Komplikasi (P4K), which requires pregnant women to determine their delivery location, birth attendant, and other necessary support well before the expected date of birth.

A preparedness rate of 77.3% in this study may be interpreted as a reflection of the effectiveness of Antenatal Care (ANC) services and the implementation of P4K within the local health facilities. Pregnant women categorized as "well-prepared" are assumed to possess essential knowledge such as identifying signs of labor and pregnancy complications and to have made adequate logistical arrangements, including financial savings, standby transportation, and emotional support from family members. These findings are in line with Yuliyanti et al., (2020), who also reported a relatively high level of preparedness, with 36 mothers (51.4%) categorized as well prepared, 11 (15.7%) adequately prepared, and 23 (32.9%) poorly prepared, concluding that birth preparedness is strongly influenced by maternal knowledge ($p = 0.000$).

Thus, the results of this study indicate that while most respondents were well prepared for childbirth, a proportion of pregnant women remained in the adequately prepared category. According to Sari (2024), inadequate birth preparedness particularly among women in the third trimester may be influenced by limited maternal knowledge, low educational attainment, sociocultural factors, and suboptimal socioeconomic conditions.

The Relationship Between Physical Activity and Readiness for Childbirth in Pregnant Women

The results of the bivariate correlation analysis showed a correlation coefficient (r) of 0.132 with a significance value (p-value) of 0.074, based on a significance threshold of 0.05. These findings indicate that there is no statistically significant relationship between physical activity and birth preparedness. Although the correlation coefficient suggests a tendency for mothers with higher levels of physical activity to be slightly more prepared for childbirth, the statistical evidence obtained in this study is insufficient to confirm a meaningful association.

The lack of significant correlation is reinforced by findings from a qualitative study by Alizadeh et al. (2024), which identified several barriers to birth preparedness among pregnant women. These barriers include feelings of physical incapability and the belief that physical activity and exercise do not contribute to

labor preparation. Such barriers and perceptions suggest that although pregnant women may engage in general physical activities, these activities are often irregular, insufficiently motivated, and low in intensity, failing to reach the threshold required to exert a measurable effect on birth preparedness.

The results presented in Table 3 further show that the percentage of birth preparedness among pregnant women is relatively high across all levels of physical activity. This indicates that pregnant women are capable of achieving adequate preparedness regardless of variations in their physical activity levels. The consistently high percentages across all categories weaken the observed statistical relationship, resulting in a correlation that is positive but not significant. Nonetheless, the positive correlation still reflects a tendency that more active mothers generally exhibit better preparedness. In other words, physical activity is not the sole factor influencing birth preparedness.

Other, more dominant factors appear to overshadow the influence of physical activity on preparedness outcomes. While physical activity remains beneficial during pregnancy such as improving fitness, enhancing mood, and reducing the risk of pregnancy complications Ahmadi et al., (2021) its role in enhancing birth preparedness requires more structured and targeted interventions.

The relatively small effect of physical activity may be attributed to the greater influence of cognitive and informational factors on birth preparedness. Knowledge and exposure to information have been shown to be strongly associated with birth preparedness, as demonstrated by Sari, (2024), who reported significant associations between maternal knowledge, information exposure, and preparedness ($p = 0.022$ and $p = 0.001$, respectively). Information received from media and healthcare professionals enhances mothers' confidence and readiness. Additionally, childbirth experience (parity) plays an important role ($p = 0.004$). Multiparous mothers tend to have better understanding and expectations of the childbirth process, leading to greater preparedness compared to nulliparous mothers, who often face more uncertainties.

Other supporting factors include participation in antenatal classes, which was found to be significantly associated with birth preparedness in a study by (Farwati, 2019). Antenatal classes not only provide structured physical exercises but also improve knowledge and psychological readiness. Moreover, husband support contributes significantly to maternal preparedness, both psychologically and logistically ($p = 0.04$) (Nadziroh, 2021). Supportive husbands help reduce anxiety, enhance feelings of safety, and provide motivation for adequate preparation.

In conclusion, although physical activity remains beneficial for overall maternal health during pregnancy, improving birth preparedness is more effectively achieved through cognitive and psychosocial factors such as education, prior childbirth experience, participation in antenatal classes, and strong family support.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of the study examining the relationship between physical activity and birth preparedness among pregnant women in the working area of Puskesmas Cimalaka in 2025, several conclusions can be drawn. The results showed that most pregnant women had a moderate level of physical activity, with the moderate category being the most

prevalent, accounting for 71 women (38.4%), followed by light activity in 52 women (28.1%), sedentary activity in 39 women (21.1%), and heavy activity in 23 women (12.4%). In addition, the majority of pregnant women demonstrated good birth preparedness, with 143 out of 185 respondents (77.3%) classified as prepared for childbirth. The study also revealed that there was no statistically significant relationship between physical activity and birth preparedness among pregnant women at Puskesmas Cimalaka (p = 0.074, r = 0.132). However, a very weak positive correlation was observed, indicating a slight tendency for higher physical activity levels to be associated with increased birth preparedness.

Overall, birth preparedness in this study appeared to be more strongly influenced by other, more dominant factors, including maternal knowledge, exposure to information, childbirth experience (parity), husband's support, and participation in antenatal classes, which were found to have greater cognitive and psychosocial impacts compared to daily physical activity.

Suggestion

1. For Health Services Health centers are encouraged to enhance education for pregnant women regarding the importance of comprehensive birth preparedness by optimizing antenatal classes that integrate physical activity with counseling on birth planning.
2. For Educational Institutions Educational institutions may use this study as a reference for developing learning materials related to maternal health and for encouraging further research on birth preparedness.
3. For Future Researchers Subsequent studies are recommended to involve a larger sample size and to include additional variables such as family support, maternal anxiety, and access to health services in order to obtain more comprehensive results.

BIBLIOGRAPHY

Ahmadi, K., Amiri-Farahani, L., Haghani, S., Hasanpoor-Azghady, S. B., & Pezaro, S. (2021). Exploring the intensity, barriers and correlates of physical activity in Iranian pregnant women: A cross-sectional study. BMJ Open Sport and Exercise Medicine, 7(4), 1–8. https://doi.org/10.1136/bmjsem-2020 001020

Ahmady, M. A. (2024). Hubungan intensitas aktivitas fisik dengan kejadian nyeri punggung bawah pada ibu hamil trimester III (Skripsi, Universitas Islam Negeri Alauddin Makassar, Fakultas Kedokteran dan Ilmu Kesehatan).

Alamrew, A., Sisay, A., Ayele, M., Shitie Lake, E., Kumie, G., Hailu Mossie, H., Emagneneh, T., & Mulugeta, C. (2024). Determinants preparedness and of birth complication readiness practice among reproductive-age women in Africa a systematic review and meta-analysis. BMC Public Health, 24(1). https://doi.org/10.1186/s12889-024 20654-y

Alizadeh-Dibazari, Z., Abbasalizadeh, F., Mohammad-Alizadeh-Charandabi, S., Jahanfar, S., & Mirghafourvand, M. (2024). Childbirth preparation and its facilitating and inhibiting factors from the perspectives of pregnant and postpartum women in Tabriz-Iran: a qualitative study. Reproductive Health , 21(1), 1–18. https://doi.org/10.1186/s12978-024 01844-8

American College of Obstetricians and Gynecologists. (2020). Physical activity and exercise during pregnancy and the postpartum period (ACOG Committee Opinion No. 804). Committee on Obstetric Practice. Available on

https://www.acog.org/clinical/clinical-guidance/committee opinion/articles/2020/04/physical activity-and-exercise-during pregnancy-and-the-postpartum-period

Attallah, S., Hermawati, D., & Rizkia, M. (2022). Gambaran Aktivitas Fisik dan Risiko Preeklampsia Pada Ibu Hamil. JIM FKep, 6(3), 116–123. http://jim.usk.ac.id/FKep/article/view/ 22160

Bull, F. C., Al-Ansari, S. S., Biddle, S., Borodulin, K., Buman, M. P., Cardon, G., Carty, C., Chaput, J. P., Chastin, S., Chou, R., Dempsey, P. C., Dipietro, L., Ekelund, U., Firth, J., Friedenreich, C. M., Garcia, L., Gichu, M., Jago, R., Katzmarzyk, P. T., … Willumsen, J. F. (2020).

World Health Organization 2020 guidelines on physical activity and sedentary behaviour. British Journal of Sports Medicine, 54(24), 1451–1462. https://doi.org/10.1136/bjsports-2020 102955

Bumi Pangesti, C., Dwi Agussafutri, W., & Anggrawati, Y. (2024). Pengaruh Physical Activity Ibu Hamil Terhadap Nyeri Punggung Bawah Pada Ibu Hamil Trimester Iii. Jurnal Kebidanan Indonesia, 15(1), 19. https://doi.org/10.36419/jki.v15i1.987

Chasan-Taber, L., Schmidt, MD., Roberts, DE., Hosmer, D., Markenson, G., Freedson, P. (2004). Development and Validation of a Pregnancy Physical Activity Questionnaire. Med Sci Sports Exer, 36(10), 1750–1760. https://doi.org/10.1249/01.MSS.0000 00 142303.49306.0

Dinas Kesehatan Kabupaten Sumedang. (2024). Profil kesehatan Kabupaten Sumedang tahun 2024. Dinas Kesehatan Kabupaten Sumedang.

Efa Farwati. (2019). Hubungan Aktifitas Kelas Ibu Hamil Terhadap Kesiapan Ibu Hamil Trimester III Dalam Menghadapi Persalinan Di Puskesmas Laladon Kabupaten Bogor Tahun 2019. 1–93. Hartinah, D., Karyati, S., & Rokhani, S. (2019). Hubungan Pola Aktivitas Fisik Dengan Konstipasi Pada Ibu Hamil Trimester III Di Puskesmas Gribig. Jurnal Ilmu Keperawatan Dan Kebidanan, 10(2), 350–357. http://ejr.stikesmuhkudus.ac.id/index. php/jikk/article/view/651

Jundyah, N. Z. (2024). Hubungan Aktivitas Fisik 7 Hari Sebelum Persalinan Dengan Durasi Persalinan Kala 1 Fase Aktif Pada Ibu Primipara Di Fasilitas Kesehatan Malang. Jurnal Ilmiah Bidan, 8(3), 12–19. https://doi.org/10.61720/jib.v8i3.510

Kementerian Kesehatan Republik Indonesia. (2019, November 1). P4K Persalinan Anak. Ayo Sehat. https://ayosehat.kemkes.go.id/p4k persalinan-anak

Kowalska, J. (2023). The Level of Stress and Anxiety in Pregnant Women Depending on Social Support and Physical Activity.

Makmun, I., Amilia, R., Harahap, A. P., Ari Adiputri, N. W., Amini, A., Mardiyah WD, S., & Esty Pamungkas, C. (2022). Pelaksanaan Yoga Ibu Hamil Pada Kelas Ibu Hamil Di Kelurahan Banjar Baru Kota Mataram. Borneo Community Health Service Journal, 2(2), 1–5. https://doi.org/10.35334/neotyce.v2i2 .2747

Maria Septiana, Ana Sapitri, & Nesi Novita. (2024). Pengaruh Senam Hamil Terhadap Kualitas Tidur Pada Ibu Hamil Trimester III. Cendekia Medika: Jurnal Stikes Al-Ma`arif Baturaja, 9(1), 159–167. https://doi.org/10.52235/cendekiamedika.v9i1.310

Mengmei, Y., Meizhen, Z., Tieying, Z., Meiliyang, W., Ye, C., Ke, Z., & AiQing, T. (2022). Childbirth Readiness Scale (CRS): instrument development and psychometric properties. BMC Pregnancy and Childbirth, 22(1), 1–13. https://doi.org/10.1186/s12884-022 04574-6 Nadziroh, S. U. (2021). Hubungan dukungan suami terhadap kesiapan persalinan pada ibu hamil remaja di puskesmas bandarharjo semarang.

Nasir, F. (2024). Efektivitas Senam Hamil dalam Meningkatkan Kesiapan Ibu untuk Persalinan Normal The Effectiveness of Prenatal Gymnastics in Increasing Mothers ' Readiness for Normal Childbirth. 7(11), 4344–4348. https://doi.org/10.56338/jks.v7i11. 66 46

Natalia, L., & Handayani, I. (2022). Ketidaknyamanan Kehamilan Trimester Iii : Sebuah Laporan Kasus Asuhan Kehamilan. Jurnal Kesehatan Siliwangi, 3(2), 302–307. https://doi.org/10.34011/jks.v3i2.1 18 4

Nurbaya, A. P. (2023). Kecemasan Ibu Primigravida Trimester. Jurnal Ilmiah Bidan, 7(3), 1–16.

Rahmawati, D. (2019). Hubungan Aktivitas Fisik Ibu Saat Hamil Dengan Kejadian Seksio Sesarea Di Kediri. Jurnal Kebidanan, 7(2), 112–117. https://doi.org/10.35890/jkdh.v7i2. 10 3

Sari, A. A., & Puspitasari, D. (2016). Hubungan Senam Yoga Dengan Kesiapan Fisik Dan Psikologis Ibu Hamil Dalam Menghadapi Persalinan Di Kelas Antepartum Gentle Yoga Yogyakarta. Interest : Jurnal Ilmu Kesehatan, 5(2), 207–211. https://doi.org/10.37341/interest.v5 i2. 56

Sari, W. (2024). Faktor- Faktor Yang Berhubungan DenganKesiapan Persalinan Pada Ibu Hamil Tmt IiiDi Wilayah Kerja Nurussalam Kabupaten Puskesmas Aceh. Fakultas Sains Teknologi Dan Ilmu Kesehatan Universitas Bina Bangsa Getsempena Banda Aceh.

Semmagga, N., & Fausyah, A. N. (2021). Hubungan senam hamil dengan kelancaran proses persalinan normal di Puskesmas Wara. Jurnal Sistem Kesehatan, 6(1), 7–13. http://jurnal.unpad.ac.id/jsk_ikm/ar tic le/view/35634

Singh, T., Tripathy, B., Pandey, A. K., Gautam, D., & Mishra, S. S. (2024). Examining birth preparedness and complication readiness: a systematic review and meta-analysis of pregnant and recently delivered women in India. BMC Women's Health, 24(1), 1–12. https://doi.org/10.1186/s12905 024-02932-4

Szumilewicz, A. (2018). Who and how should prescribe and conduct exercise programs for pregnant women? Recommendation based on the European educational standards for pregnancy and postnatal exercise specialists. Developmental Period Medicine, 22(2), 107–112. https://doi.org/10.34763/devperiod me d.20182202.107112

Yuliyanti, T., Rahayu, T., Wuriningsih, A. Y., & Wahyuni, S. (2020). Hubungan Tingkat Pengetahuan tentang Kehamilan Risiko Tinggi dengan Persiapan Persalinan pada Ibu Hamil di Wilayah Kerja Puskesmas Bandarharjo Semarang. Prosiding Konferensi Ilmiah Mahasiswa UNISSULA 3, 9–20.

World Health Organization. (2022). Physical activity. World Health Organization. https://www.who.int/news-

room/fact sheets/detail/physical-activity WHO. (2020). WHO Guidelines on Physical Activity and Sedentary Behaviour. Geneva. In World Health Organization.