

## The Affecting of Demographic Factors on Utilization of Postpartum Health Service

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### ABSTRACT

**Background:** Based on research states that the prevalence rate of complete postpartum visits (KF) in Indonesia is 37%, where this figure has increased from 2013 of 32.1%. The problem with the achievement of postpartum visits in Indonesia is that the underdeveloped areas mentioned in Presidential Decree Number 63 of 2020, namely North Sumatra, Central Sulawesi, Maluku, Papua and West Papua, occupy the bottom 6 provinces in the complete postnatal visit. The province of West Papua is the region with the lowest KF coverage rate in Indonesia.

**Subjects and Method:** Meta-analysis conducted using the PRISMA systematic guidelines. Population= puerperium mother, Intervention= Urban, Comparison= Rural, Outcome= Utility of postnatal health service. The process of searching for articles was carried out between 2005 and 2021 using a database search engine consisting of; PubMed, Science Direct, Springer Link, and Google Scholar. Based on the database search, there were ten articles that met the criteria with a cross-sectional design and observational studies and research that discussed demographic factors (urban & rural) on health care facilities.

**Results:** The results of the analysis had high heterogeneity between studies  $I^2 = 94\%$ , so that the Random Effect Model was used. Postnatal mothers living in urban areas increased by 1.48 times in utilizing postnatal care health services compared to postnatal mothers living in rural areas. however it was not statistically significant (SMD= 1.48; 95% CI= 0.90 to 2.44;  $p = 0.012$ ).

**Conclusion:** Postpartum women who live in urban areas use postpartum health services more than postpartum women who live in rural areas.

**Keywords:** postpartum, postnatal visit, demographic factors

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## BACKGROUND

The 1945 Constitution Article 28 H paragraph (1) states that everyone has the right to live in physical and spiritual prosperity, to have a place to live, and to have a good and healthy living environment and the right to obtain health services. Article 34 paragraph (3) states that the state is responsible for the provision of proper health service facilities and public service facilities. Law Number 36 of 2009 concerning Health, in Article 5 paragraph (1) states that everyone has the same rights in gaining access to resources in the health sector, furthermore in paragraph (2) it is emphasized that everyone has the right to obtain services. health that is safe, quality, and affordable, paragraph (3) states that everyone has the right to independently and responsibly determine the health services that are needed for himself. Furthermore, Article 6 states that everyone has the right to a healthy environment for the attainment of a health degree. Guaranteeing the fulfillment of the right to healthy life for all people, including the poor and underprivileged, is the government's responsibility for the availability of health resources that are just and equitable for all people in obtaining the highest health status.

Maternal and child health problems are complex health problems in Indonesia. Various efforts have been made to reduce maternal mortality (MMR) in Indonesia, including improving antenatal services in all health facilities with good quality and reaching all target groups, increasing delivery assistance by professionals gradually, increasing early detection of risks for pregnant women and implementing a referral system and improve Maternal and Child Health. The ultimate goal of the MCH program is to reduce maternal and child mortality (Kemenkes, 2014).

Maternal mortality rate (MMR) is one indicator in determining the degree of public health. The World Health Organization (WHO) describes maternal mortality as the number of deaths of women during pregnancy, childbirth or in the puerperium period (42 days after delivery) due to pregnancy or its management, but not due to accident or injury. The Infant Mortality Rate (IMR) and Maternal Mortality Rate (MMR) in Indonesia are still high compared to other ASEAN countries. Data from the Indonesian Demographic Health Survey (IDHS) in 2020, the number of maternal deaths until August 2020 was 27 cases (227.22/ 100,000 KH). Data from January 2020 to August also states that there have been 74 cases of neonatal AKN 6.23/ 1,000 KH and 116 post-neonatal deaths AKB 9.78 / 1000 KH.

Maternal health is a major challenge globally. The unacceptably high rate of maternal mortality is frequently discussed in global health and development meetings. Great achievements have actually been made, but there is still little or no progress in reducing maternal mortality for example in Sub-Saharan Africa (SSA) with only a 40% decline since 2000. Sub-Saharan Africa and South Asia accounts for about 86% (254 000) of global maternal deaths. In 2017, 15 countries including Ethiopia were categorized as “very high alert” or “stern warning” against maternal mortality with a peak value of 1150 per 100,000 live births. Ethiopia is one of the countries with a high MMR with an estimated 412 deaths per 100,000 live births (Alemahayu, et al., 2020).

The factors related to maternal death are broadly grouped into direct causes and indirect causes. The direct causes of maternal death are factors related to complications of pregnancy, childbirth and the puerperium, such as bleeding, preeclampsia,

infection, obstructed labor and abortion (Kemenkes, 2014). Indirect causes of maternal death are factors that can affect the degree of maternal health such as maternal health status, readiness for pregnancy and childbirth, examinations during pregnancy, safe delivery assistance, as well as immediate care after childbirth, as well as socio-cultural factors (Poerwndari & Akmal, 2000; Susiana, 2019). The limited access of women to quality reproductive health service facilities, especially for poor women in disadvantaged, remote, border and island areas (DTPK) is one of the challenges faced in achieving MDG 5 Target 5A (Bappenas, 2010; Susiana, 2019).

The puerperium (puerperium) is a period that begins after the birth of the placenta and ends when the uterus organs return to their pre-pregnancy state. Postpartum care is needed because this period is a critical period for both mother and baby. The complications that often occur in postpartum mothers are bleeding, infection and postpartum depression (Yudianti, 2017). Postpartum health services are health services for mothers.

## SUBJECTS AND METHOD

### 1. Study Design

This research is a systematic review and meta-analysis using literature from various electronic databases including: Clinical Key, Google Scholar, MEDLINE / PubMed, ProQuest, Science Direct, Scopus, and Spinger Link. The literature search was carried out using the following keywords: "Postpartum", "Postnatal", and "Postnatal visit".

### 2. Population and Sample

Inclusion Criteria

- 1) The article used is a full paper article
- 2) The article has an appropriate title and relates to the use of telemedicine on patient satisfaction.

- 3) Articles published in English and / or Indonesian
- 4) The article uses a Randomized Controlled Trial (RCT) study design
- 5) Include the results of the study in the form of the number of respondents, the mean value and the value of standard deviation (SD)
- 6) The research subjects were patients in health care
- 7) Intervention on research subjects in the form of telemedicine
- 8) The intervention in the control group was in the form of non telemedicine

Exclusion Criteria

- 1) Not a full paper article
- 2) Articles that use quasi-experimental study design, protocol study, plot study, cohort, case control and cross-sectional study.
- 3) Articles use languages other than English and Indonesian

### 3. Study Variables

Demography is a scientific study of the population, especially with regard to fertility, mortality and mobility. Demographics include population size, geographic spread, population composition and demographic characteristics and how these factors change over time. Therefore, demographics focus on studying population problems quantitatively, such as the number, structure, composition, and size of the population so that demographic or demographic data calculation techniques are indispensable to obtain good calculation results and quality.

**Demographic factors** of postpartum mothers as independent variables. Postpartum mothers are grouped into urban and rural areas.

**Postnatal care attendance** was defined in this study as at least one postnatal visit provided to the mother within the first 42

days (six weeks) of birth. Data used in the form of categorical data and using aOR.

**4. Study Instruments**

Published articles obtained from various appropriate electronic journal databases include: Clinical Key, Google Scholar, MEDLINE/PubMed, Science Direct, and Scopus. This study was conducted by searching and selecting the results of research on various races, ethnicities and locations in the world.

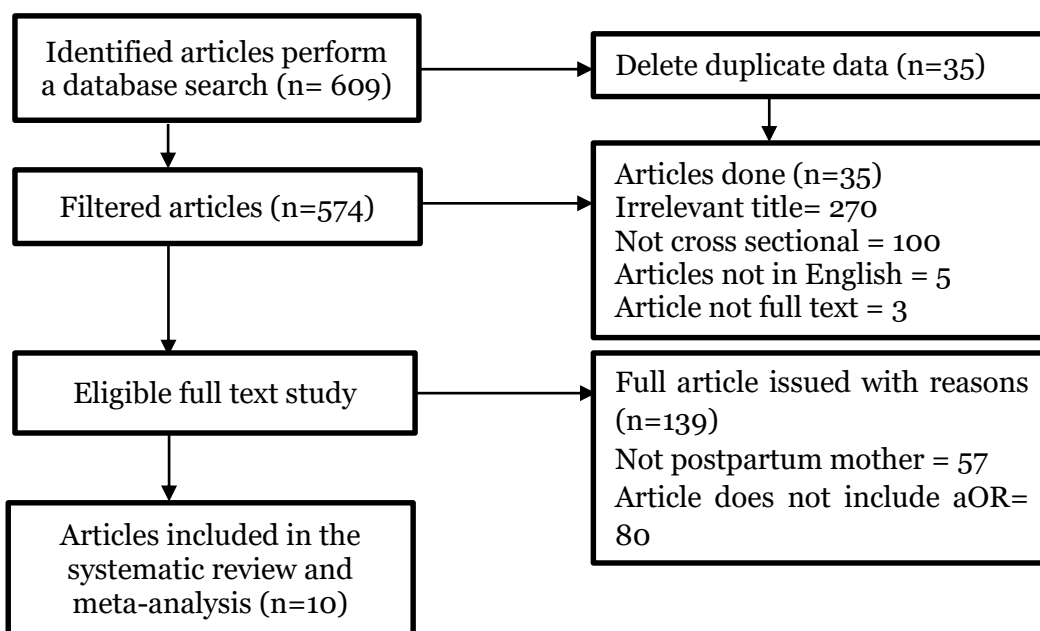
**5. Data Analysis**

This study was conducted using secondary data in the form of data from previous

research results and data processing was carried out using the Review Manager (RevMan 5.3).

**RESULTS**

The process of searching for articles by searching through journal databases which includes: PubMed, SpringerLink, Elsevier and Google Scholar. The keywords used are "Associated Factors" AND "postnatal care utilization". The article review process can be seen in the search flow as follows:



**Figure 1. Flow Chart of Article Review Process**

The initial search process gave 609 article results, after the process of deleting published articles, 574 articles were found, of which 149 were eligible for a full text review. Full articles that fall into the exclusion criteria are due to the following:

1. Not using a cross sectional research design
2. Do not use observational studies
3. The population is not postpartum mothers

4. The article is not in full text form.
5. The results reported in this study are bivariate analysis so that only ORs, different mean and the like are displayed
6. Population less than 100

The results of the assessment of the quality of research that are guided by the Critical Appraisal Tools Cross sectional Study, the studies in this study have a strong quality and are suitable for meta-analysis.

**Table 1. The main description of the study on the relationship between the quality of health services physical dimensions (tangible) with patient satisfaction**

Author, Year	Title	Location	Study Design	Sample Size	(Population)	Intervention	Comparison (C)	Outcome
Shitie <i>et al</i> (2020)	Completion and Factors Associated with Maternity Continuum of Care among Mothers Who Gave Birth in the Last One Year in Enemay District, Northwest Ethiopia	Ethiopia	Cross sectional	651 post-partum mothers	Women who gave birth in the last one.	Urban	Rural	Women living in urban areas were significantly associated with the completion of the maternity continuum of care (AOR = 1.28, 95% CI: 0.69-2.36)
Berhe <i>et al</i> (2019)	Determinants of postnatal care utilization in Tigray, Northern Ethiopia: A community based cross-sectional study	Cross sectional	Cross sectional	1,690 post-partum mothers	Participants were 18–49 years, had given birth within the last 6 months, and were residents of the district for at least 6 months.	Urban	Rural	Women were more likely to receive postnatal services if they lived in an urban area (OR= 1.96, 95% CI= 1.07, 3.59)
Adane <i>et al</i> (2017)	Factors associated with postnatal care utilization among postpartum women in Ethiopia: a multi-level analysis of the 2016 Ethiopia demographic and health survey	Ethiopia	Cross sectional	4489 post-partum mothers	women who gave birth 2 years before the survey were included	Urban	Rural	Women living in rural areas are significantly associated with utilization of PNC services. AOR=0,82, 95% CI= (0,25, 2,64)
Khanal et al (2014)	Factors associated with the utilisation of postnatal care services among the mothers of Nepal: analysis of Nepal Demographic and Health Survey 2011	Nepal	Cross sectional	4079 post-partum mothers	women who gave birth in the last 5 years.	Urban	Rural	Value of household questionnaire, men's questionnaire and women's questionnaire.
Alemayehu et al (2020)	Utilization and factors associated with antenatal, delivery and postnatal Care Services in Tigray Region, Ethiopia: a community-based cross-sectional stud	Ethiopia	Cross sectional	667 post-partum mothers	Women of reproductive age (15–49 years) who gave birth in the last 45 days to 6 months.	Rural	Rural	Value of the patient satisfaction questionnaire

**Table 2. Research Quality Assessment (Critical Appraisal)**

<b>Publication</b>	<b>Cross Sectional</b>	<b>Were the criteria for inclusion in the sample clearly defined?</b>	<b>Were the study subjects and the setting described in detail?</b>	<b>Was the exposure measured in a valid and reliable way?</b>	<b>Were objective, standard criteria used for measurement of the condition?</b>	<b>Were confounding factors identified?</b>	<b>Were strategies to deal with confounding factors stated?</b>	<b>Were the outcomes measured in a valid and reliable way?</b>	<b>Was appropriate statistical analysis used?</b>	<b>Total</b>
Khanal et al (2014)	1	1	1	1	1	1	1	1	1	8
Alemayehu et al (2020)	1	1	1	1	1	1	1	1	1	8
Ayele et al (2019)	1	1	1	1	1	1	1	1	1	8
Khan Khell et al (2020)	1	1	1	1		1	1	1	1	8
Tsegaye et al (2020)	1	1	1	1	1	0	1	1	1	7
Shitie et al (2020)	1	1	1	1	1	1	1	1	1	7
Berhe et al (2019)	1	1	1	1	1	0	1	1	1	7
Adane et al (2017)	1	1	1	0	1	1	1	1	1	7
Tesfahun et al (2014)	1	1	1	0	1	1	1	1	1	7
Khaki et al (2019)	1	1	1	1	1	0	1	1	1	7

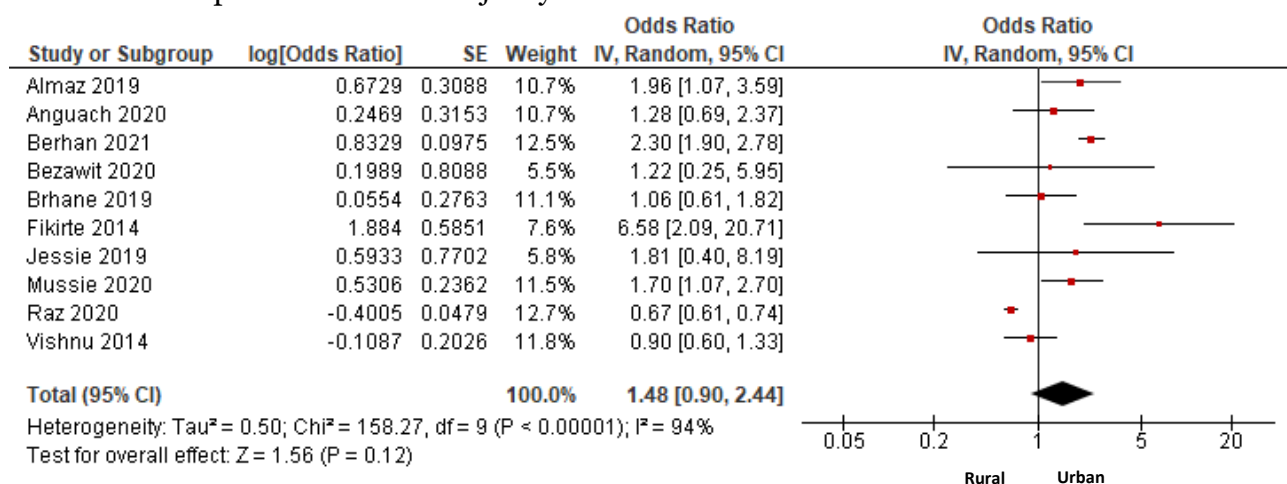
**Table Description of primary studied included in meta-analysis**

The results of the meta-analysis are presented in the form of a forest plot and a funnel plot. Following are the results of a meta-analysis of the effect of demographic factors on the utilization of postnatal care services:

**1. Forest Plot**

Based on the results of the analysis in the image above, it can be seen that as many as 10 articles report that the majority of

postnatal care health services are carried out by postnatal mothers who live in urban areas. Based on the results of the analysis, it has high heterogeneity between studies ( $I^2=94\%$ ) so that the Random Effect Model is used. Postnatal mothers who live in urban areas have 1.48 times the use of postnatal health care compared to postnatal mothers who live in rural areas, but it is not statistically significant (SMD= 1.48; 95% CI= 0.90 to 2.44;  $p= 0.012$ ).

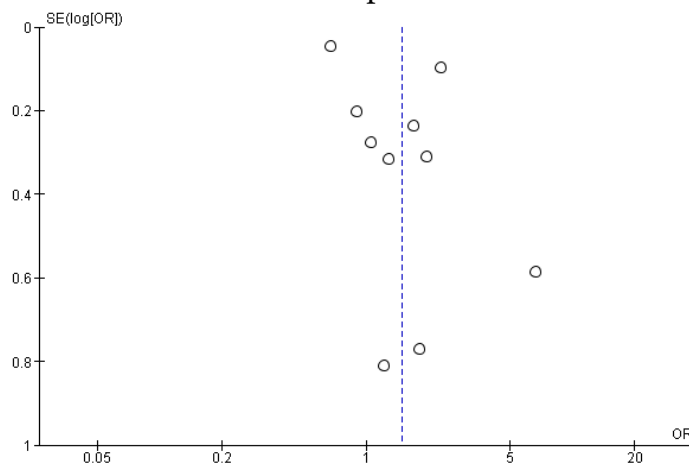


**Figure 2. Forest Plot**

**2. Funnel Plot**

Based on the picture of the funnel plot of postnatal mothers living in rural areas compared to postnatal mothers living in urban areas regarding the use of postnatal care services, it shows that there is no

publication bias which is indicated by the symmetrical distribution of the right and left plots, where there are 5 plots on the left and 5 plots on the left side. right. The left plot has a standard error of  $> 0$  and the left plot has a standard error of  $> 0.6$ .



**Figure 3. Funnel Plot**

## DISCUSSION

In this meta-analysis with a total number of 10 research articles involving our participants found that postnatal mothers living in urban areas had 1.48 times the use of postnatal care health services compared to postnatal mothers living in rural areas, but it was not statistically significant (MD 1.48; 95% CI 0.90 to 2.44;  $p = 0.012$ ). This can occur because rural communities have fewer opportunities to get health services compared to postpartum mothers who live in urban areas, in other studies Bekalu (2018) that mothers who live in rural areas are less likely to take advantage of postnatal care (OR, 0.17 95% CI; 0.05-0.60) but there are also other factors that influence it such as mother's education, social class, ethnicity/ culture and number of births. Another possible reason is that the health services in urban areas are far more advanced than health services in villages. Our meta-analysis research is an important study to do because there are still many postpartum mothers who have not done postpartum examinations to health services.

Our systematic review and meta-analysis used literature review with clear inclusion and exclusion criteria. Apart from that, from the data carried out by the flannel plot test with Revman 5.4, there was no publication bias. One of the limitations in our study is that we only conducted research on the utilization of health services by comparing postpartum mothers living in rural and urban areas, but we have limited this by providing inclusion and exclusion criteria.

## AUTHOR CONTRIBUTION

the researcher who acts as the main researcher who plays a role in coordinating the research, Rendi Adiansa & Kusmirawati who looks for the background and research methods. Afifah Noer who is looking for a

background. Shofia Nur Fadhila who conducted the discussion. Salwa Annisa is looking for journals and editing articles. Amanda Via Maulinda is looking for journal and editing articles. Fadhila Alfiasari is looking for journaling and editing. Melinda Febianca G is looking for a journal. Putri Hapsari is looking for a journal. Septyandi Ramadhan looking for a journal.

## CONFLICT OF INTEREST

There is no conflict of interest in this study.

## FUNDING AND SPONSORSHIP

This study was self-funded.

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