

Factors Affecting Home Birth Delivery Worldwide – A Meta-Analysis

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Abstract— Aims: This study analyzes factors contributing to traditional home birth delivery from 4 different continents – Asia, North America, Australia and Africa.

Methods: Of the 100 studies extracted from search engines such as PubMed from 2009 to 2017, only four were selected. A PRISMA guideline was used to eliminate other studies. Probabilities, percentile ranking and frequencies numerically analyzed the studies selected addressing factors affecting home birth delivery.

Outcomes: The factors affecting home birth delivery were significant (p=0.54). There were four significant factors influencing home birth delivery worldwide: (1) lack of transportation (16.4% out of n=274); (2) safety and comfort (32% out of n=160); lack of access to facilities (96.5% out of n=275) lack of funds (58% out of n=9,152); and lack of funds (58% out of n=9,152).

Key words: Home Birth Delivery, Meta-Analysis, Nursing, Public Health

I. INTRODUCTION

This Meta-analysis aimed to analyze factors that affect traditional home birth delivery worldwide.

Home birth is a normal spontaneous delivery through the vagina and the baby is delivered in the comfort of their own homes [1, 2, 3, 4].

II. CONCEPT

Many women choose home birth because delivering a baby in familiar surroundings is important to them [1]. Others choose home birth because they dislike a hospital or birthing center environment, neither like a medically centered birthing experience, exposing the infant to hospital-borne pathogens; or simply dislike the presence of strangers at the birth [2]. Others prefer home birth because they feel it is more natural and less stressful; more control, and a comfortable and familiar environment [1, 2].

Women choose a home birth because of safety, avoidance of unnecessary travel especially on previous negative hospital experiences where travelling alone is already stressful due to heavy traffic jam [3, 4]. Sometimes, the child bearing delivers the fetus inside the transportation itself especially if the travel time to the nearest healthcare facility is greater than 2 hours [4, 7].

There are some instances where lack of access to hospital facilities deems a home birth delivery necessary for the child bearing [5, 6].

In developing countries, where women may not be able to afford medical care or it may not be accessible to them, a home birth may be the only option available, and the woman may or may not be assisted by a professional attendant of any kind [7].

It is important that a woman and her health care provider discuss the individual health risks prior to planning a home birth [6, 7].

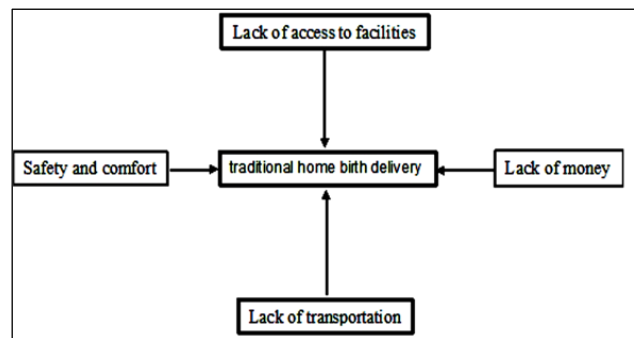


Fig. 1: factors affecting traditional home birth delivery

III. METHODOLOGY

The relevant works using English text word were searched for by entering keywords on internet search engines. Boolean phrases were search for by entering sign options such as (+) sign were used on text word. The relevant works were extracted from data base such as PubMed.

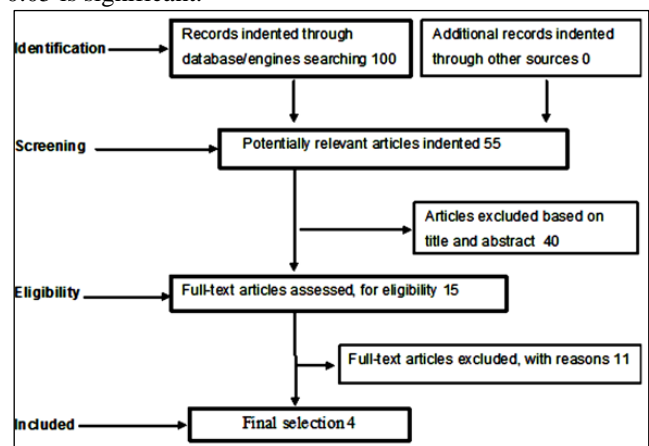
The PIO (Population, Intervention, and outcome) guide focused the analysis [8]. The PIO key words entered as in-text in PubMed are enumerated below:

Population: Pregnancy (+)

Intervention: Homebirth (+)

Outcome: Factors

The PRISMA (Proffered Reporting Items for systematic reviews and Meta-analysis) guideline [9] helped eliminate other studies -considering inclusion and exclusion criteria. Percentile ranking and frequencies numerically analyzed the studies selected addressing factors affecting home birth delivery. A probability result that is greater than 0.05 is significant.



IV. RESULTS AND FINDINGS

Out of the 100 studies evaluated, only four were selected (Figure 2). The summary of the selected studies is found on table 1 guided by the PIO.

Studies	Intervention	Population	Out come
Oducado et al. 2016 (Asian)	Determined home birth delivery	274	Lack of transportation
Boucheret al. 2009 (north America)	Described home birth delivery	160	Safety and comfort
Tsegay et al. 2017 (Africa)	Determined home birth delivery	275	Lack of access to facilities
Mrisho et al. 2007 (Australia)	Explored home birth delivery	9,152	Lack of money
Total		9,861	p=0.54

Table 1: Summary of the four selected studies guided by the PIO

Oducado et al. [1], determined 274 respondents being afraid of experiencing hospital delivery due to lack of transportation. An 11.48% of the participants with other reasons says that they are being influenced by the parents, husband/significant others to give birth at home (9.84%), having had bad experience with delivering baby in a transportation vehicle (8.20%), difficulty in driving to birth centers due to far locations of homes, and the roads are very bumpy giving more stress to the child bearing (8.20%). The least reported reason of the participants why they opted to deliver at home was because of bad weather conditions and the transportation will not make it through the rough roads (6.56%).

Boucher et al. [3] described approximately n=160 American women give birth at home for a more comfortable environment. A quantitative descriptive secondary analysis was conducted in a previously collected dataset obtained via an online survey. The sample consisted of 160 women who were US residents and planned a home birth at least once. Content analysis was used to study the responses from women to one essay question: “Why did you choose home birth?” The most common reasons given for wanting to birth at home were: 1) safety (n = 38; 24%) avoidance of unnecessary medical interventions common in hospital births (n = 38; 24%) previous negative hospital experience (n = 37; 23%) more control (n = 35; 21%) comfortable, familiar environment (n = 30; 18%). Another dominant theme was (2) women’s trust in the birth process (n = 25; 12%).

Tsegay et al. [5] says a total of 275 women (92 cases and 183 controls) participated in the study, giving a response rate of 96.5% due to insufficient hospital facilities or sometimes the hospital has low technology (AOR: 7.2, 95% CI: 2.7–19.3), no hospital televisions nor entertainment for the childbearing after the delivery (AOR: 10.4, 95% CI: 2.9–37.1) or having poor knowledge to obstetric complications (AOR: 8.7, 95% CI: 2.3–32.9) were strong predictors of home delivery.

Mrisho et al. [7] visited 21,482 households representing 99% of the 21,600 households expected. A total of 98% of heads of household were present during the survey and only 0.004% refused to take part. A total of 94% of 20,138 women of reproductive age (15–49) visited were

interviewed. Data were available for 9,152 women who had delivered in the 3 years prior to survey. For their most recent births 5,317 (58%) delivered at home. There was variation between ethnic groups in Australia with lack of money ($P < 0.0001$), having the “Yao” ethnicity being more likely to deliver at health facility than the Makonde or Mwera (RR 1.48, 95% CI 1.34–1.63).

V. DISCUSSION

Selecting research studies published on internet search engines mostly have positive results, and researchers must be aware that these are examples of selection biases, since most studies are not published on the internet with negative results [8, 9]. Most of the referenced studies were vulnerable to home delivery as compared to hospital delivery.

Nevertheless, the four selected studies were from four different countries to justify those diversities among subjects (home delivery from four different continents). The populations were from low to high income countries or living in rural setting to be more vulnerable to diversity of home birth delivery. Therefore, the comparisons of the populations from high income background or living in small provincial village may not lead to a bias.

The low family incomes are too vulnerable to home delivery, and the complication of home delivery are not only of under-developed countries but also in high income countries and emerging high technology countries [10]. People of various socio-demographic classes should be conscious and get aware of their vulnerability to home delivery [11].

VI. CONCLUSION

The factors affecting home birth delivery is significant ($p=0.54$). It is also concluded that there are four significant factors influencing home birth delivery worldwide:

- lack of transportation (16.4% out of n=274)
- safety and comfort: (32% out of n=160)
- lack of access to facilities (96.5% out of n=275)
- lack of funds (58% out of n=9,152)

VII. RECOMMENDATIONS

- 1) The study revealed that women who chose to deliver their babies at home because of financial problems. It is therefore recommended that government should make provision for free medical treatment of pregnant women right from pregnancy stage to postpartum stage.
- 2) Medical personnel in collaboration with non-governmental organizations (NGOs) should carry out enlightenment campaign where people will be educated on the health benefits of hospital delivery especially in the community setting.
- 3) Community awareness needs to be raised on maternal health seeking behavior and families and community in general need to be prepared for means of transport or transport costs
- 4) Government in collaboration with Ministries of Health or Departments of Health should organize orientation programs to district leaders; religious leaders on the risks associated with home delivery.

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