

## The Determinant Factors To Correlate With People's Interest In Choosing Traditional Birth Attendant As The Birth Attendant In Jember Regency, East Java, Indonesia

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**Abstract:** *The death risk of both mother and infant is increasing due to the delay treatment during the pregnancy and childbirth process. One of the factors to contribute in the raise of this risk is the childbirth by traditional birth attendant. Many health programs have been set by the government in order to deal with this matter. However, there are still many people who employ the service of the traditional birth attendant. This research employs survey method by using cross-sectional approach conducted in Jember Regency. This research involves 200 mothers who childbirth during the period of 2013-2014 as the sample. This research employs simple random sampling as the sampling method. Data was taken using questionnaire extended to mothers who met the research criteria. Data analysis was performed using descriptive statistic as well as logistic regression, aided by SPSS version 20. The results of this research revealed that, of 86 mothers who childbirth at the traditional birth attendant's place, 58,1% stated that the extension and publication of the health programs had been conducted well; 53,5% stated that the health care providers understood the culture quite well; 81,4% stated that they reside at places beyond the reach of the health service; while 76,7% stated that the lived in the highland area. Space is the most correlating variable with the choice of using the traditional birth attendant as shown by the Odds Ratio of 12,5. This translated as mothers who reside in distant places from health service are 12,5 times higher more possible to choose their childbirth by traditional birth attendant after the geographic factors as well as the ability to recognize people's culture. Therefore, government must provide close-ranged health services for people to access more easily. Besides, more intense health education is needed so as to help people understand and comprehend the importance of obtaining health services, respectively.*

**Keywords:** *People's interest, traditional birth attendant, childbirth*

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### I. Introduction

The Family Health Survey (FHS) conducted stated that nearly 90% of the direct causes of mother's death during the childbirth process as well as right after the childbirth (Departemen Kesehatan, 2001). Meanwhile, the risk of mother's death is higher as caused by the delay factor as an indirect death cause. Wijaya (2009) states three delay factors, namely 1) the delay to make decision for hospital sending (including the delay to recognize the danger signs); 2) the delay to arrive at the health facility at the emergency situation only and, 3) the delay to receive proper service provided by health. As for the infant's death, two third occurred during the neonatal period, with most of them were low birth weight infant, prematurity, asphyxia, and infection.

The delay in the childbirth treatment may be caused by the insufficient knowledge of the people regarding health as well as the beyond-reach health service access. This situation leads them to make unwise decision by their antenatal care as well as requesting help for childbirth process to the traditional birth attendant who is more accessible to them. Yet, those traditional birth attendants may not have sufficient knowledge regarding pregnancy and childbirth process. Thus, the nearing-childbirth mothers are only taken to hospitals or to health services when they are in critical condition.

Numerous efforts have been done by the government to accommodate and overcome those abovementioned problems. Among the policies which prioritize public interest are health programs like social security service (jamkesmas), regional security service (jamkesda), antenatal care and childbirth security service (jampersal) as well as other insurance programs.

The emergence of those various programs, of course with numerous breakthrough on the quality and quantity level, one of which is by lowering the maternal mortality rate (MMR) from 228/100.000 live birth in 2007 to 102/100.000 live birth in 2015 (Kementerian Kesehatan, 2011). This may be done by ensuring antenatal care and childbirth helping free of charges by health care agents/midwife. This will be a major breakthrough since there are still alot of pregnant mothers who are financially not secured to support their childbirth process. By ensuring this breakthrough to work, one of the blocking obstacles may be removed.

The intensive implementation of the health policies does not always bring significant changes in altering people's behavior in antenatal care as well as childbirth at the health service. The data gained from Basic

Health Research conducted in 2013 revealed that in the scope of national region, 68,6% birth attendants are midwives; 18,5% are doctors; 11,8% are non-medical health agents; 0,8% are self-aided; 0,3% are nurses (Kementerian Kesehatan, 2013). The data in Jember regency revealed that antenatal care and childbirth helping which was conducted at traditional birth attendant reached 14%. This remains above the targeted percentage of 8% (Dinas Kesehatan Kabupaten Jember, 2013). Yumarlis states that this is due to the small number of health care agents/midwives in Jember Regency, as represented by 444 people compared to the traditional birth attendants which reaches 1195 (Wirawan, 2014). During the period of January-August 2014, infant mortality rate (IMR) in Jember Regency was recorded at 167 cases, while maternal mortality rate (MMR) was 20 cases (Hidayat, 2014).

The high percentage of childbirth process conducted at traditional birth attendant remains the problem to be addressed seriously. Therefore, the regulation which is directed to community-oriented based may be implemented efficiently as well as effectively.

## **II. Research Method**

This research employs survey method by using cross-sectional approach which is intended to generate the most dominant factors to correlate with the high interest of the people in choosing traditional birth attendant as the one to help the childbirth process. This research is conducted in Jember Regency, East Java Province, Indonesia. Jember Regency is chosen as the research site because this area is currently recorded as one of the areas with the highest prevalence number of maternal mortality rate (MMR) and infant mortality rate (IMR) in East Java. This area also possesses varied geographical aspects, either highland or lowland. The population of this research is the women aged 20-40 who childbirth (at either health care providers of traditional birth attendant) during the years of 2013-2014, by involving 200 individuals which were chosen by employing simple random sampling. The dependent variable is the people's interest in choosing traditional birth attendant as antenatal care and birth attendant, while the independent variable is the health programs extension and publication, the ability of the health care providers in recognizing the value and culture of the targeted community, the distance which separates the people and health services, as well as the geographical condition of the targeted community. Data collection was performed using questionnaire extended to mothers who met the criteria of the research.

### **Statistical Analysis**

Statistical analysis was generated by employing the display of the frequency distribution table. To find out the correlation of each independent and dependent variable, this research employs chi-square statistical testing, with  $\alpha = 0,05$ . Meanwhile, the statistical analysis which was used to find out the independent variables (the extension and publication of the healthcare programs, the ability of the health care providers to recognize the culture, the distance to the health service, the geographical condition of the respondents' residence) which are most closely connected with the dependent variable (the interest of choosing the birth attendant) is logistic regression with  $\alpha = 0,05$ .

## **III. Results Of The Research**

The respondents of this research were 200 individuals, with 86 at the traditional birth attendant, whereas 114 childbirth at the health service places. Furthermore, 65% of the respondents resided in the highland, whereas the rest resided in the lowland areas. Of 86% respondents who childbirth at traditional birth attendant places, 58,1% stated that the extension and publication of the health programs provided by the health care providers were good, while 41,9% stated that the extension was quite good. Regarding 114 respondents who childbirth at the health services, 78,9% stated that the extension and publication of the health programs provided by the health care providers were good, while 21,1% stated that the extension was quite good. The result of the statistical testing revealed the variation on the proportion of respondents in expressing perception over extension and publication of health program between those who childbirth at traditional birth attendant and health service ( $pvalue = 0,043$ ;  $\alpha = 0,05$ ). However, this result was opposed by the multivariate analysis of the logistic regression which generated  $pvalue = 0,118$ ;  $\alpha = 0,05$ . This was in line with the fact that the extension and publication of this program had been good, but 43% of those respondents remained choosing the traditional birth attendant as their birth attendant.

Of 86 mothers who childbirth at traditional birth attendant's place, 53,5% stated that whether healthcare agents were able to recognize people's culture; 41,9% stated good, with 4,7% stated that the health care providers were less able to recognize the people's culture. Meanwhile, Of 114 mothers who childbirth at health service places, 89,5% stated that health care providers able to recognize people's culture, with 10,5% stated that the health care providers were quite able to recognize the people's culture. This finding was supported by the the result of the statistical testing which demonstrated the variation on the respondent's proportion in expressing perception regarding the ability of the health care providers in recognizing the local

cultures among those who childbirth at traditional birth attendant and those who did so at the healthservices( $pvalue = 0,000$ ;  $\alpha = 0,05$ ).

Of 86 mother s who childbirth at traditional birth attendants, 81,4% resided in the areas which were far beyond the reach of the health services. Meanwhile, of 114 mothers who childbirth at the healthservice, 66,7% resided in areas near the healthservices. This finding was supported by the result of statistical testing which revealed the variation on the respondents' proportion based on the distance of the those pregnant mothers - from the nearest healthcare - who childbirth at traditional birth attendant as compared to the ones who childbirth at the healthservices ( $pvalue = 0,000$ ;  $\alpha = 0,05$ ).

Of 86 mother s who childbirth at traditional birth attendants, 76,7% resided in the geographically highland areas. Meanwhile, of 114 mothers who childbirth at the healthservices, 54,4% resided in the lowland areas. This finding was supported by the result of statistical testing which revealed the variation on the respondents' proportion based on the geographical condition of the residence of those pregnant mothers who childbirth at traditional birth attendant as compared to the ones who childbirth at the healthservices( $pvalue = 0,000$ ;  $\alpha = 0,05$ ).

The statistical analysis revealed that the variables of geographical aspects, distance, and the ability of the health care providers to recognize the people's culture have meaningful correlation with the people's interest in choosing the birth attendant. Meanwhile, the variable of program extension and publication served as the confounding variable. The results of the analysis revealed that distance was the most significantly dominant variable to correlate with the people's interest in choosing the birth attendant, with the Odds Ratio 12,5. This translated as mothers who reside in distant places from health care are 12,5 times higher more possible to choose their childbirth by traditional birth attendant after the geographic factors as well as the abilityhealth care providers to recognize people's culture.

#### **IV. Discussion**

Of many programs issued by government in the health sector, all are intended to provide financial support aimed at antenatal care, childbirth, post-partum services, including the birth control which was conducted post childbirth, as well as newborn treatment services. These health programs were set and implemented as an effort to lower the maternal mortality rate (MMR) as well as infant mortality rate (IMR). Both MMR and IMR were one of the major indicators in assessing the health degree of the community in a country (Kementerian Kesehatan, 2009).

The report on the MMR and IMR in Indonesia signaled lowering in each year. During the period of 2004-2007, the MMR lowered from 307/100.000 live birth to 228/100.000, while the IMR lowered from 35/1000 live birth to 34/1000. However, this success needed improvement since Indonesia's MMR and IMR remains high when compared to other ASEAN countries' rates (Kementerian Kesehatan, 2009).

The 2015 MDGs targets are heavy weight challenges to government to achieve (Departemen Kesehatan, 2007). The Mid-Term National Project Planning Target 2010-2014 suggested that MMR be lowered to 118/100.000 live birth in 2014. In addition, the MDGs agreements targeted MMR in Indonesia be lowered to 102/100.000 live birth and the IMR to 23/1000 live birth in 2015 (Kementerian Kesehatan, 2011). However, those targets are not easy to accomplish. The fact is that MMR rose to 359/100.000 live birth as demonstrated by the Indonesia's Demography and Health Survey conducted in 2012 (Kementerian Kesehatan, 2014). Yumarlis reckoned, despite the establishment of the health programs, the MMR in Jember Regency alone in 2014 was recorded at 20 cases, while IMR was at 167 cases. This is due to the vast number of mothers who were not properly attended immediately by medical services or, intentionally choosing to use traditional birth attendant for childbirth (Hidayat, 2014).

#### **The extension and publication of Health Services Programs**

The improvement on both quantity and quality of health programs that have been established by the government might fail to work without proper extension and publication to the public. Thompson (2003), found that the lack of proper information regarding the variation on the usage of health services occurred at many different health facilities. Muriithi (2013) stated that improving information regarding the quality of the health services may enrich the choice of visiting the health services. Information uncertainty about the quality of a health facility can reduce or increase health care demand or leave it unaffected, depending on the kind of information that households have about health services. Individuals might lack information about the quality or availability of service at a health facility and this can affect their decision to visit or not to visit that facility. Hasan (2010) also stated that the effort of growing the demand on the health services is an effect of the communication process which informs the public that the health services they need are now available and ready to use.

Extension and publication is an important early stage for a program to be widely known, understood, comprehended, as well as implemented by all parties involved. Furthermore, Hasan (2010) stated that this

information may shift people's behavior and change the nature of the health services which, not known at the first time, into being needed at last.

The extension and publication of a health program is not only directed to public, but also to the health care providers as the service providers. The lack of comprehension of the program may cause less proper extension and publication. Thus, public may receive false or incomplete information, which later affect public's comprehension.

The extension and publication of the health programs should be in line with the success of the existing health programs. Hence, there will be strong correlation between extension and publication and people's desire to choose the healthcare where they want their childbirth to take place. This is in line with the result of the chi-square statistical testing which revealed the p value of 0,043;  $\alpha = 0,05$ . However, this value is opposed by the result of the multivariate analysis of logistic regression which indicated that there was no correlation between the extension and publication of the program with people's interest in choosing to have a childbirth process at the health services ( $p = 0,118$ ;  $\alpha = 0,05$ ).

This finding revealed that, although the targeted community agreed that the extension and publication of the program had been carried out quite well, and even well, they did not choose to have their childbirth process at the health services at once. Of 200 respondents whose perception regarding the extension and publication of the health programs were quite well and well, 43% remained delivering their babies at the traditional birth attendants' places. The detailed data regarding this particular finding is seen on table 1. By referring to this finding, it can be concluded that despite the quite well and well-performed extension and publication, there are several factors to affect the high occurrence of the childbirth process at the traditional birth attendants' places namely; distance to childbirth service center, culture, geography, social and economy, education and knowledge, etc.

#### **Ability Health Care Providers to Recognize the People's Culture**

Value and Culture of a community is the character of a certain group or community which is unique and distinguished. Culture is one of the behaviors in the category of predisposing factors (Arcury at al., 2005). The value and culture which often become the center of attention in affecting the usage and implementation of the health service are the use of medicine and traditional services (Cavender at al., 1995), and the effect of the belief which has rooted in the local community's life (Humphrey, 1988). The socio-cultural condition of each region contributes to the usage of health services. There are still many rural areas which employ the service of traditional birth attendant (Kementerian Kesehatan, 2013). The complexity of the local culture may hinder the achievement of the targeted health programs.

Such variations on value and culture should be understood by the health care providers as the main health service provider to the public. Their ability to blend with the common people in a community becomes the key to gain public trust. Thus, Kresno (2010) stated that health care providers need to learn local culture.

Jember is an area of diverse culture, with most of the inhabitants are Javanese and Madurese. One of the unique Characters of the Madurese people is the fact that they have more trust to local figures (both social and religious ones) compared to healthcare agents. Health care agents, thus, need to prepare special strategies in order to be able to blend with people nicely to help empower people to achieve the goals of the health programs. Interestingly, however, 69% of the respondents stated that health care providers were able to recognize the culture of the targeted community. Complete data regarding this matter is seen on table 2.

A mere recognition to local people's culture proves to be less effective than expected when it comes to the changing people's behavior, especially if the changes are expected to be easy and quick. The changes on behavior take quite a while. There are other factors which also contribute to the changes on people's behavior in choosing the birth attendant.

#### **The Distance to Health Service Centers and Geographical Condition**

Distance often becomes one of the major problems in maximizing the service coverage, including the childbirth service provided by the healthcare agents. The availability of the service coverage seems to be minimum at rural areas. This is supported by the research result which shows that of 86 respondents who opted traditional birth attendants, 81,4% were due to distant coverage of the health service from their places.

Distance also means the cost to cover. Most of the respondents were classified as low-end group. The more distant the health service centers are, the bigger cost to expense. Muriithi (2013) stated that the more distant someone is from the health service, the higher possibility for him/her to choose the small-scale health facility instead of the formal health services. This finding is in line with the similar findings reported by Mwabue et al. (1993) and Cisse (2006). Mwabue et al. (1993) found that the cost to cover due to the distance factor may lower the demand for health service. Notoatmodjo (2003) also stated that the usage of the existing health services depend upon the customers' ability in covering the expenses.

The high coverage on transportation cost for receiving health service is often not matching with the financial security received by the people in a community. This leads them to opt for cheaper alternatives in obtaining health services, including the childbirth service. Deiniger et al. (2003) suggested that it takes more than cost removal. This means that government must not only remove the cost for health services, but also provide ease on access to public for the sake of receiving health services.

The difficulty in accessing health services is one of the obstacles in establishing the improvement on this matter. The main problem faced by the rural community is the access to health services (Ricketts et al., 1994; Medicare Payment Advisory Commission, 2001). Although there are many ways to perform assessment on access, the biggest point of attention should go to distance and the availability of health services, particularly in rural areas. People who live in remote areas often find it difficult to even reach the health care providers or nearest health services. When compared to the people who live in urban areas, they must take lengthy trip to reach the health service centers. They must also deal with the risks of poor road quality as well as less available public transportation (Ricketts, 1999).

The relative distance of the people and health services may be subjective in nature. The same distance, for example, may mean differently to urban and rural people. Such phenomenon may become the underlying background for people to choose to have their childbirth service at traditional birth attendants, merely because they subjectively assume that those traditional birth attendants are nearer. Haynes (1991); Love et al. (1995); Weclh et al., 1997) suggested that distance may be measured by length, time, assumed length, and assumed time to get to the nearest health services.

Other reasons why mother prefer to employ the services of traditional birth attendants include; the too-near delivery process which prevents mothers from receiving health services, the assumption that traditional birth attendants offer comprehensive, passionate, as well as cheaper services. Also, traditional birth attendants are also believed to provide services up to 40 days post partum. Fatimah (1998) points out the factors that mothers state when choosing the birth attendants namely, economic, perception over the helpers' competence, comfort, as well as care.

Economic factor refers to the cost to cover. The examination and labor help performed by healthcare are free of charge. However, the distance to get to those services is not. The distance cost is fully covered by the person. The fact that taking long distance to get free service is actually not free at all forced people to choose traditional birth attendants to help them with their childbirth process.

The competence of the birth attendant also becomes the underlying reason why someone is chosen to help the childbirth process. To those who believe that health care providers are more competent, they would have the tendency to select them as the birth attendants. The similar thing applies to those who believe in traditional birth attendant.

Comfort is also one of the main considerations when someone is to choose the birth attendants. Childbirth at home, aided by traditional birth attendants, may help people feel more comfortable and closer to her family. In addition, she does not have to carry heavy luggage for childbirth preparation. By doing the labor this way, the traditional birth attendant is the one to responsible for all needed. Even, traditional birth attendant is responsible for the services up to 40 days post partum.

The sincerity and light-handedness are also two things to consider when a person is to choose a traditional birth attendant. Many people entrust their childbirth process to traditional birth attendants since they are closer in proximity, while at the same time are also considered as "part of family". In contrast, the health care providers are pictured as the ones who keep distant from the public, while at the same time not being able to blend. This causes people in a community to feel reluctant to ask for their help.

Geographically, the area where people reside is also another problem to deal with. As many as 86 respondents choose to childbirth at traditional birth attendants' places. Of that number, 76,7% reside in the mountain area. Raghupathy (1996) suggested that geography and accessibility of service are also two significant determining factors for people to consider when utilizing the formal health services for antenatal care. Difficult access to health services, lengthy distance, as well as rough trips to get to the health services also contribute to people's preference in choosing traditional birth attendants who live nearby. The fact is, childbirth process at formal health centers may be zero-cost, but the trip may be costly. Lawson (2004) suggested that the probability of finding the health services may increase significantly when the access is also readily available.

Hilly and mountainous regions are easily found in Jember Regency. This is not an easy task to handle. An outnumbered personnel and less distributable personnel are two factors in addition to the distant access to the formal health centers.

## **V. Limitations And Recommendations**

This research employs cross-sectional method which uses a questionnaire as a sole instrument, and not supported by an in-depth interview. Thus, it is possible that data or information gathered is not detailed, particularly regarding the choice of employing traditional birth attendants' services as the birth attendants. This

research also recommends future researchers to conduct triangulated research which enables more comprehensive data or information gathering. Furthermore, the government is also recommended to add up more health care providers and to distribute them evenly. Hence, health services are more accessible and affordable to everyone.

## VI. Conclusion

Based on the results and discussion, it can be concluded that people in Jember choose their childbirth process by closely considering the extension and publication of the health programs, the competence of the health care providers in recognizing local culture, the distance which separates the people and the health services, as well as the geographical conditions where those people reside. Distance is the most dominant factor to correlate with people's interest in choosing the birth attendants. More distant places to reach for the childbirth process may cause additional cost. The lack of health service available, uneven distribution of the health care providers, as well as numerous traditional birth attendants available are all the mounting problems to be seriously addressed in dealing with the achievement of coverage of childbirth by health services, respectively.

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Table 1: Publication of Health Services Programs with People's Interest in Choosing the Birth Attendants (n=200)

| The Birth Attendants        | Publication of Health Services Programs |            | Total      | pvalue |
|-----------------------------|---|------------|------------|--------|
|                             | Quite Good                              | Good       |            |        |
| Traditional Birth Attendant | 36 (41,9%)                              | 50 (58,1%) | 86 (100%)  | 0,043  |
| Health Service              | 24 (21,1%)                              | 90 (78,9%) | 114 (100%) |        |
| Total                       | 60 (30%)                                | 140 (70%)  | 200 (100%) |        |

Tabel 2: Health Care Providers Ability to Recognize the People's Culture with People's Interest in Choosing the Birth Attendants (n=200)

| The Birth Attendants | Health Care Providers Ability to Recognize the People's Culture |            |             | Total      | pvalue |
|----------------------|---|------------|-------------|------------|--------|
|                      | Less  | Quite Good | Good        |            |        |
|                      | Traditional Birth Attendant                                     | 4 (4,7%)   | 46 (53,5%)  |            |        |
| Health Service       | 0 (0%)  | 12 (10,5%) | 102 (89,5%) | 114 (100%) |        |
| Total                | 4 (2,0%)  | 58 (29%)   | 138 (69%)   | 200 (100%) |        |

Tabel 3: The Distance to Health Service Centers with People's Interest in Choosing the Birth Attendants (n=200)

| The Birth Attendants        | The Distance to Health Service Centers |            | Total      | pvalue |
|-----------------------------|--|------------|------------|--------|
|                             | Far                                    | Near       |            |        |
| Traditional Birth Attendant | 70 (81,4%)                             | 16 (18,6%) | 86 (100%)  | 0,000  |
| Health Service              | 38 (33,3%)                             | 76 (66,7%) | 114 (100%) |        |
| Total                       | 108 (54%)                              | 92 (46%)   | 200 (100%) |        |

Tabel 4: Geographical Condition with People's Interest in Choosing the Birth Attendants (n=200)

| The Birth Attendants        | Geographical Condition |            | Total      | pvalue |
|-----------------------------|------------------------|------------|------------|--------|
|                             | Highland               | Lowland    |            |        |
| Traditional Birth Attendant | 66 (76,7%)             | 20 (23,3%) | 86 (100%)  | 0,003  |
| Health Service              | 52 (45,6%)             | 62 (54,4%) | 114 (100%) |        |
| Total                       | 118 (59%)              | 82 (41%)   | 200 (100%) |        |

Tabel 5: The Determinant Factors to Corralate with People's Interest in Choosing the Birth Attendants (n= 200)

| Predictor Factors | B       | Sig. | Exp(B) | 95% C.I. for EXP(B) |        |
|-------------------|---------|------|--------|---------------------|--------|
|                   |         |      |        | Lower               | Upper  |
| Geographic        | 1.235   | .033 | 3.437  | 1.105               | 10.692 |
| Distance          | 2.526   | .000 | 12.501 | 3.511               | 44.512 |
| Publication       | .972    | .118 | 2.642  | .782                | 8.924  |
| Culture           | 2.476   | .000 | 11.896 | 3.137               | 45.108 |
| Constant          | -14.229 | .000 | .000   |                     |        |