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UNIVERSITAS AIRLANGGA  
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“Global Nursing Challenges in The Free Trade Era”  
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# PRENATAL CARE SATISFACTION IN TEMPORARY HOUSING FOLLOWING NATURAL DISASTER

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## ABSTRACT

**Introduction:** People are displaced to temporary housing following natural disasters. Due to the limited facilities and psychologist condition during stayed in temporary housing, pregnant women and their fetuses tend to develop health problems. Indonesia government provides prenatal care in temporary housing to monitor pregnant women health. Further, prenatal care satisfaction is one of consideration in measuring prenatal care service quality. Therefore, the purpose of this study was to identify prenatal care satisfaction in temporary housing following volcanic mudflow. **Method:** A descriptive study was conducted in Magelang district of Indonesia. One hundred eighteen subjects who had pregnant experience when they stayed in temporary Housing following volcanic mudflow were recruited. Prenatal care satisfaction questionnaire was used to measure the prenatal care service satisfaction. Physician/nurse-midwife-patient interaction, administrative efficiency and staff relationship, physical environment, physical environment, access and resource availability were five sub-variables in prenatal care satisfaction. The expert validity and the cronbach's alpha coefficients (.801 to .864) were achieved. The descriptive statistic was performed. **Results:** The result of this study indicated that the mean values between five sub-variables were from 1.69 to 1.79. Furthermore, the highest mean value between five sub-variables was quality (1.79), and the lowest mean value was access and resource availability (1.69). Thereby, the overall of mean value of the each item in prenatal care satisfaction were less than 2.1. **Discussion:** In sum, prenatal care service did not well implement. Indonesia government and non-government organization which involved in disaster management should provide specific attention to enhance prenatal care service following an expected even such as natural disaster.

**Keywords:** prenatal care satisfaction, temporary housing and natural disaster.

## INTRODUCTION

Natural disaster is incidents that cause damages, disruptions and deterioration into whole aspects of human being which require help from others (WHO, 2002). A volcanic eruption is one kind of natural disaster, which is usually followed by another prolong event of natural disaster called volcanic mudflow. In 2011, which reported that seven villages in Magelang district were drowned by volcanic mudflow, and the citizens including the pregnant women were transferred to the shelter and continuous to temporary housing with the

time frame which cannot be determined (Indonesia National Disaster Management Agency, 2012). Pictures of temporary housing were described by Callaghan et al. (2007) and Fan (2012) as a crowded place and have limited facilities and infrastructure. Consequently, people who live in temporary housing have risk of public health problems including pregnant women (Callaghan et al., 2007; Fan, 2012). Pregnant women who are exposed to a natural disaster may experience reducing of fetal growth, and increasing a number of maternal complications, low birth weight as well as preterm birth infants (Carver

et al., 2012; Harvielle, Xiong, & Pierre, 2011; Tong, Zotti & Hsia, 2011). During Merapi eruption and volcanic mudflow in 2011-2013, there were 472 pregnant women receiving prenatal care service from several public health care service in Magelang district (Indonesia Ministry of Health, 2011).

Prenatal care is a specific health care service to maintain and monitor pregnant women's health status as well as their fetus and to detect the early signs or risk factors of abnormal conditions or diseases that occurred in pregnant women, and providing effective interventions to reduce maternal morbidity and mortality rate (Hollowell, Kurinczuk, Oakley, Brocklehurst, & Gray, 2009; Lumbigan, Narong, Chompilas, & Kamron, 2004; WHO, 2003). The thing that should be considered is the success of achievement in prenatal care service is influenced by the prenatal care service quality which provided. The quality of prenatal care service can be assessed by measuring pregnant women satisfaction in prenatal care service (Raube, Handler, Rosenberg, & Kelly, 1998). However, it is still unknown to what extent the prenatal care satisfaction in temporary housing during volcanic mudflow. Therefore, this study focuses on the prenatal care satisfaction in temporary housing following volcanic mudflow in Indonesia. The purpose of this study was to identify prenatal care satisfaction of pregnant women in temporary housing following volcanic mudflow.

## RESEARCH METHOD

A descriptive study was performed. The population in this study was women who had pregnant experience when they lived in temporary housing in Magelang, Centre Java, Indonesia. This area is chosen by researcher because the higher numbers of refugees who got pregnant after volcanic mudflow stayed in Magelang (Ministry of health, 2010). The total households who live in temporary housing of Magelang were 427 (Indonesia National Disaster Management Agency Report, 2012). Purposive sampling was performed in this study. The inclusion criteria of study subjects were women willing to participate in this study, able to read in Bahasa, and had opportunity to get prenatal care when they

lived in the temporary housing. The exclusion criteria were pregnant women who were having abortion and/or mental health problems experience when staying in temporary housing. One hundred eighteen subjects who had pregnant experience when they stayed in temporary Housing following volcanic mudflow were recruited.

Prenatal care satisfaction is health care service for pregnant women which is provided by government during staying in temporary housing. Twenty two questions in the questionnaire are adopted from prenatal care satisfaction questionnaire which is developed by Raube, Handler, and Rosenberg. Raube, Handler, & Rosenberg (1998) used the questionnaire to measure the prenatal care satisfaction among low income women on six dimensions including art of care (7 items), technical quality (4 items), physical environment (4 items), access (4 items), and availability (2 items). However, in this study sub-variable access and availability become one sub-variable. The scale of this domain is ordinal data from one to five likert's scale (one is poor and five is excellent) which have appropriate cronbach's alpha coefficients ranging from 0.73 to 0.95. The reliability of this instrument was conducted as same as the previous instrument. For instant, the result of cronbach's alpha coefficients for population in this study was from .801 to .864. In data collection, the research permits were issued by Indonesia ministry of health. The principal investigator and two trained research assistants collected the data. The ethical clearance was issued by Indonesia ministry of health. None of the subjects was canceling to join in this study. Descriptive statistic was used to describe the data.

## RESULT

There were five sub-variables in prenatal care satisfaction. The mean total of prenatal care satisfaction was 1.71 and the standard deviation (SD) was .75. The mean values between five sub-variables were from 1.69 to 1.79 (SD .56-85). Furthermore, the highest mean value between five sub-variables was quality (1.79), and the lowest mean value was access and resource availability (1.69). Thereby, the overall of mean value of the each item in prenatal care satisfaction were less than 2.1 (Table 1).

## DISCUSSION

The average of pregnant women satisfaction level on prenatal care service in

Magelang temporary housing was on the low-level of prenatal care satisfaction. Aharony & Strasser (1993) stated assessing pregnant

Table 1. Prenatal Care Satisfaction

Variables	Mean± SD	Min-Max
<b>Physician/nurse-midwife-patient interaction</b>	<b>1.71±.79</b>	<b>1-4</b>
Comfort shown by doctors or nurse-midwives	1.70±.80	1-4
Thoroughness of examinations	1.69±.83	1-4
Explanation of procedure	1.65±.70	1-3
Concern shown by doctors or nurse-midwives	1.79±.82	1-4
<b>Administrative efficiency and staff relationship</b>	<b>1.71±.76</b>	<b>1-5</b>
Respect shown by nurses or receptionists	1.61±.78	1-5
Waiting time at office or clinic	1.56±.76	1-5
Concern shown by nurses or receptionists	1.86±.85	1-5
Comfort shown by nurses or receptionists	1.72±.75	1-4
Waiting time to get an appointment	2.06±.56	1-4
Atmosphere of waiting room	1.41±.63	1-4
<b>Physical environment</b>	<b>1.70±.67</b>	<b>1-4</b>
Location of office or clinic	1.86±.63	1-4
Modernness of medical equipment's	1.65±.68	1-4
Attractive of office or clinic	1.60±.66	1-4
<b>Technical Quality</b>	<b>1.79±.79</b>	<b>1-5</b>
Cleanliness of office or clinic	1.90±.75	1-5
Technical skills of doctor or nurse-midwives	1.84±.85	1-5
Respect shown by doctors or nurse-midwives	1.66±.68	1-4
Equity of treatment	1.74±.85	1-5
<b>Access and resource availability</b>	<b>1.69±.74</b>	<b>1-4</b>
Comfort of the waiting room	1.63±.79	1-4
Availability of doctors or nurse-midwives	1.63±.72	1-4
Hours of office of clinic	1.67±.74	1-4
Availability of nutritional service	1.77±.65	1-4
Helpfulness of advice	1.77±.81	1-4
Total	<b>1.71±.75</b>	<b>1-5</b>

Prenatal care satisfaction questionnaire is developed by Raube, Handler, and Rosenberg (1998)

women satisfaction on prenatal care is needed to identify the prenatal care satisfaction service outcome as well as indicator of prenatal care service quality. The quality of prenatal care satisfaction service in temporary housing related to physician/nurse-midwife-patient interaction, administrative efficiency and staff relationship, physical environment, technical quality, access and resource availability were on the range poor to fair level. This condition might influence the prenatal care satisfaction service outcome in temporary shelter after natural disaster. Hence, Indonesia ministry of health as a public agency which has responsible to provide health care service in disaster management might needs to investigate and evaluate the implementation reproductive health service regarding prenatal care service in temporary housing after natural disaster. Further, there is recent evidence that need to be considered related to patient satisfaction on prenatal care service. Ejigu,

Woldie, & Kifle (2013) found that the dissatisfaction of prenatal care service is reported by pregnant women who received incomplete service service items. Hence, prenatal care service satisfaction of pregnant women might be influenced by comprehensiveness of prenatal care service received.

## CONCLUSION AND RECOMMENDATION

### Conclusion

In addition, this study indicated that pregnant women stay in temporary housing and received prenatal care performed dissatisfaction almost in all of five dimensions.

### Recommendation

Government and others agencies who will involve in disaster management should provide specific attention related to prenatal care service which is focus in several

dimensions including physician/nurse-midwife-patient interaction, administrative efficiency and staff relationship, physical environment, technical quality, access and resource availability.

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