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Effects of Access to Information on Health Literacy in Pregnant Women

Ridwan Mochtar Thaha[1]*, Muhammad Anwar[2], Ida Leida Maria[3]

[1]Department of Health Promotion and Behavioral Science, Universitas Hasanuddin, Makassar, Indonesia; [2]Department of Public Health, Universitas Al Asyariah Mandar, City of Polewali Mandar, Indonesia; [3]Department of Epidemiology, Universitas Hasanuddin, Makassar, Indonesia

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***Correspondence:** Ridwan Mochtar Thaha, Department of Health Promotion and Behavioral Science, Universitas Hasanuddin, Makassar, Indonesia. E-mail: ridwanmochtarthaha@gmail.com
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Abstract

AIM: This study aims to analyze the effect of access to information, the ability to understand, assess and practice the health literacy of pregnant women.

METHODS: This study uses cross-sectional design for the population of pregnant women and uses a lameshow formula to find a sample of 399. Data collection uses questionnaires and the results are processed using the t-test to find the significance of correlation and test the effect of R2 to find out the effect magnitude.

RESULTS: Correlation test results showed 3 of 4 variables correlated with health literacy with a value >1.96 yaitu understand (X1.2) (R^2 = 0.65), assessment (X1.3) (R^2 = 0.80), and application (X1.4) (R^2 = 0.57). The ability to judge variable is proven to explain the practice of health literacy by 80%, and the rest is determined by other variables.

CONCLUSIONS: Health literacy has been recognized as one of the determinants of health and has become one of the goals of public health development for prevention and efforts to overcome risks in pregnancy.

Introduction

The results of the World Health Organization (WHO) ICD-10 formulation mention maternal deaths are women's deaths that occur during pregnancy or within 42 days after the end of pregnancy [1]. It does not depend on the old and is the phenomenon of the tip of the iceberg because there are quite a lot of cases, but only a small portion of the surface appears [2]. The maternal mortality rate reaches 305/100 Live Births. Even though there has been a decline from 359/Live Birth in 2013, the SDGs have not reached the target of 124/100,000 Live Births [3].

The results of the Basic Health Research in 2018 found that the causes of maternal comorbidity consisted of; the proportion of pregnant women lacking in chronic energy reaches 33.5%. The proportion of pregnant women suffering from anemia reaches 48.9% [4]. It is very clear that this case had an impact on the condition of pregnancy and death. The WHO (2016) reports that 40% of maternal deaths in developing countries are caused by anemia during pregnancy [1]. The case of maternal morbidity will certainly have a significant influence on the health of the fetus and the baby born, the fetus that is at risk of nutritional growth and birth weight of infants who do not reach normal weight 2500 g and consequently suffer from malnutrition (stunting).

This case should be handled with adequate behavior. However, it is evident that the behavior of pregnant women has not been able to overcome the risk of malnutrition. Of the Supplementary Feeding Program (PMT) of pregnant women, 74.8% of them have not utilized PMT to help overcome a risky pregnancy. Furthermore, 73.2% of pregnant women who received 90 iron tablets, 61.9% were proven to consume iron tablets <90 Tablets [5]. The factor of low knowledge possessed is the main domain in the behavior of pregnant women and women giving birth [6]. Problem as a biopsychosocial model and defines health literacy as the cognitive and social skills of individuals who determine their motivation and ability to access understand and use information as a way to maintain and improve health [7].

Maternal health literacy is classified as 34% low, 48% moderate, and 18% good [8]. A low level of literacy associated with low levels of education and low socioeconomic status [9]. As a result, they are unable to access health care resources. Women with

adequate health literacy have a significant difference in starting early to use antenatal care, infant birth weight, hematocrit mothers, folic acid iron and folate tablets, pregnancy weight gain, gestational age at birth, birth and breastfeeding methods [10].

In the West Sulawesi Province Profile, the biggest cause of maternal death due to bleeding due to 50%, following hypertension in pregnancy by 13%. 69% of mothers who die are those who are aged between 20 and 34 years of age [5]. In an effort to encourage the improvement of the nutritional status of pregnant women, the distribution of Fe-90 tablets has been carried out, but it has been proven that achievement is only 72.98% or below the national average of 85.17%.

Internal factors have proven to be very influential namely knowledge, attitudes, experiences, and perceptions of mothers. One of the impacts is that there are differences in the ability of individuals referred to as health literacy, which Sorensen (2012) refers to as a four-dimensional matrix of health literacy applied to three health domain [11]. Health literacy starts with the ability to access information and ends on making decisions about health differently for each individual. This factor is the main problem of this study, namely information about the ability of pregnant women to access/obtain information relevant to health, the ability to understand information relevant to health, the ability to process/assess information relevant to health and the ability to apply/use information relevant to health measures. These four variables will be assessed for three dimensions of health care namely health services, disease prevention, and health promotion. This study aims to analyze the effect of access to information, the ability to understand, assess, and practice the health literacy of pregnant women.

Methods

The study design uses a cross-sectional approach, in which the researcher observes or measures variables at a particular time so that the researcher does not follow-up on the measurements/observations made. The selection of research locations is determined based on the amount of prevalence of anemia still high in pregnant women in the province of West Sulawesi, namely the administration of Fe 74% tablets is still below the national level and has not yet reached the target, namely Polewali Mandar Regency. The population in this study was all pregnant women domiciled in the Polewali Mandar Regency, amounting to 500 Baby Mothers. The sample size uses the formula calculation by lameshow and obtained a sample size of 399. Sampling uses the Purposive Sampling technique. Data collection uses a standardized validated questionnaire namely the HLS-EU Q47 questionnaire to measure the ability of health literacy in pregnant women. This questionnaire uses a score of 47 items that measures the general index of health literacy in a comprehensive manner. The variables in this study are X1 = Health literacy, X1.1 = Access X1.2 = Understanding 1.3 = Assessment X4.4 = Implementation. The results of the study are presented in the form of narratives that are strengthened with tables to see the characteristics of the respondents, the health status of the respondents, using the t-test to obtain correlation information with standards >0.50. As for assessing, the effect of explaining health liters using the R^2 test.

Results

Characteristics of Respondents and Overview of Respondents' Nutritional Status. The results of the analysis showed that the most age of the n samples of this study were aged 20–35 years as many as 306 (76.7%) people, with the highest level of education being 263 (65.9%) people in the higher education level category, but it was proven that most not working 351 (88.0%) people, by him. Thus, the household income based on husband + wife's income is proven to be mostly below the UMR of 334 (83.7%) people. For BPJS ownership, most of which are 250 (62.7%) have BPJS categorized as PBI compared to the others (Table 1).

Table 1: Characteristics of pregnant respondents

Charactersitics	n	Percentage
Age		
<20 years	36	9.0
20–35 years	306	76.7
>35 years	57	14.3
Mother education		
Low	136	34.1
High	263	65.9
Mother job		
Not work	351	88.0
Work	48	12.0
Income		
<UMR	334	83.7
≥UMR	65	16.3

Most respondents had entered the ages of 4–6 and 7–9 months, respectively 145 (36.3%) people and 153 (38.3%) people. For parity, most are classified as multipara with 179 (44.9%) people and at least 75 (18.8%) respondents who do not have children. Next is a picture of Hb levels, most of the Hb of pregnant women are classified as high levels, namely 295 (73.9%) and the rest are normal HB levels. As for upper arm circumference, the measurement results showed that most were 315 (78.9) well nourished compared to 21.1% who were undernourished (Table 2).

Description of the results of the estimation of the "Loading factor" independent variable on Health Literacy as a Latent construct.

The analysis showed that the access variable to information obtained a correlation value = 0.1,

Table 2: Nutritional status of pregnant women

Charactersitics	n	Percentage
Pregnancy age		
1–3 month	101	25.3
4–6 month	145	36.3
7–9 month	153	38.3
Parity		
Not have child	75	18.8
Primipara	145	36.3
Multipara	179	44.9
Hb		
High Low	295	73.9
Normal	104	26.1
Trimester		
Nil	143	35.8
One	80	20.1
Two	88	22.1
Three	88	22.1
Upper arm circumference		
Good nutrition	315	78.9
Lack nutrition	84	21.1

meaning that there was no correlation to health literacy; then understanding of information obtained a correlation value = 0.65, meaning that there was a correlation to health literacy and the ability to assess the content of information obtained value = 0.79 (valid correlation); and ability to apply = 0.59 (valid correlation). Thus, the variables considered to be strongly correlated to enter the full model are the ability to access information, the ability to assess the content of information, and the ability to apply to latent constructs of health literacy (Table 3).

Table 3: Descriptive variable results of research

Variables	Correlation value	Sig>1.96
Information access (X1.1)	1.00	0.00
Understend information (X1.2)	0.65	10.24
Assessment of information (X1.3)	0.79	6.93
Application (X1.4)	0.59	11.98
Health Literasi (X1)	0.45	-

The next analysis is to look for the effect of aspects (dimensions) of literacy as an independent variable on health literacy as the dependent variable, using R2 analysis to find latent constructs. The results of the analysis presented in Table 4 show that all indicators have a statistically significant effect. Of the three variables, it is evident that the ability to make an assessment variable (X1.3) is the most influential variable of 0.80, meaning that the magnitude of the effect of the assessment variable is 80.0% to explain health literacy in pregnant women in Polewali Mandar Regency (Table 4).

Table 4: Loading factor, t value and R2 measurement of health literacy variables

Variables	T Value	R^2	Notes
Acess (X1.1)	1.00	1.00	Not significant
Understand (X1.2)	19.88	0.65	Significant
Assessment (X1.3)	35.48	0.80	Significant
Application (X1.4)	10.11	0.57	Significant

Discussion

The description of the results shows that health literacy is proven to not reach a significant correlation. Theoretically, if the health literacy of the respondents is still low, then the respondent's prevention behavior is also low and consequently it will result in poor health care. The results of this study found that more than half (55.9%) of respondents only conducted routine health checks until the first quarter. As a result, control of health is also low. It is also proven that Hb respondents are high in pregnant women with a high category reaching two-thirds of the respondents (73.9%), multiparous parity variables also account for almost half of pregnant mothers (44.9%), and poor nutritional status in one fifth of respondents (26.1%). These findings are the same and reinforce the results of the study of Berkmanet at all (15), Individuals with low health literacy (correlation <0.50) can have an impact on maternal errors in obtaining and understanding information for prevention or therapy sought, which is what therapy should be followed to overcome the perceived complaints, or illnesses experienced, it is even proven that low health literacy can increase the risk for pregnant women that is getting worse disease and risk of complications [12]. Subsequent studies found that the factors causing the low health literacy in the respondents proved to be caused by the level of education, employment status and income. The study found that one third (34.1%) of responsive pregnant women had low education, almost all (88%) did not work for income, and (83.7%) had low household income and resulted in low health literacy, especially viarabel the ability to obtain access to information as a main condition for health literacy. A mother's endogeneity and health status is more due to lack of knowledge, education, and income [13]. There is a significant relationship between education, knowledge, and income with the ability of maintenance and prevention health in inbu at each p = 0.000; 0.016; and 0.004) [14].

The loading factor of construct latent health literacy using the effect test of each variable to explain the contribution to health literacy found that aspects of the ability to make an appropriate assessment of the information obtained by explaining health literacy as 0.80 or 80.% compared to other variables. These results provide an explanation that promotion strategies to develop maternal health literacy are important starting from increasing the ability of mothers to access information continuously and widely, developing the ability of pregnant women to understand information properly and correctly, and the main thing is the ability to make an assessment of the density of information needed for health literacy. This means that the program policies for these three aspects must be developed, carried out regularly and continuously, especially in the ability to make an assessment of the correct and appropriate information as needed, especially in groups. Interventions carried out to increase MHL using comprehensive methods and types of media have been shown to significantly increase access to information [15]. Evaluating intervention studies with group-based methods for antenatal classes,

web-based small group teaching to find out the level of understanding, as well as interventions in the form of counseling, web-based education to find out the ability to make assessments correctly and appropriately.

This research is also in line with studies conducted by Lori *et al*. (2017) were quite significant and significant group differences were found. Women who participated in group care showed increased health literacy by showing greater understanding of how to implement health messages [16]. Health literacy has been recognized as one of the determinants of health and has become one of the goals of public health development [17]. Health literacy is the ability to obtain, process, and understand basic health information and health services that aim to make the right health decisions, and have developed into contributors to health status. The importance of developing specific strategies in the health literacy program for pregnant women in pregnant mothers' classes to learn together in a participatory class [11]. The implementation uses methods that vary according to local potential, including using various social media with participatory techniques and substantial financial support, especially from health financing such as BOK.

Conclusions

Health literacy has been recognized as one of the determinants of health and has become one of the goals of public health development for prevention and efforts to overcome risks in pregnancy. From these three conclusion points, the following recommendations are proposed: (1) Health literacy needs to be the priority of primary and secondary prevention efforts to increase knowledge through multi-media information access, for the provision of information that can be easily accessed by pregnant women; (2) That learning of pregnant women must be improved through classes with participatory methods, by providing material that encourages the ability to write down correct information and leave incorrect information. Henceforth, information and data can be the basis of healthy pregnant women's behavior.

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