

# The Contribution of Pregnant Women Characteristics to Pregnancy Exercise Perception

Linda Amalia\*, Lisna Annisa F, Suci Tuty Putri, Sri Sumartini, Mega N

Program Study of Nursing  
Universitas Pendidikan Indonesia  
Bandung, Indonesia  
\*lindamalia16@upi.edu

**Abstract**— Pregnant exercise is very useful for improving the health of the mother and fetus. Pregnancy exercises will reduce the high maternal mortality rate that occurs in the 3rd trimester. However, every pregnant woman has a different perception about pregnancy exercise. The problem that occurs in the field is the lack of awareness of pregnant women about the importance of pregnancy exercise. The purpose of this research was to understand the role of pregnant mother's characteristics on the perception of pregnancy exercises at Situ Sumedang Health Center. The design used in the study was cross sectional design. The samples were 153 second trimester pregnant women. The results showed 77 respondents (50.3%) had positive perceptions and 76 respondents (40.7 %) had negative perceptions. The education of pregnant women was found to be significantly related to the perception of pregnant women. This shows that pregnant women already have a positive perception about pregnancy exercise because the mother has received health education about pregnancy exercise in the class of pregnant women in each Poskesdes. It is recommended that the government together with the community try to improve education.

**Keywords:** *pregnancy exercise, perception, education, pregnant women*

## I. INTRODUCTION

Fertilization is the union of spermatozoa and ovum which causes pregnancy in a woman when a pregnant woman changes physiologically or psychologically [1]. The duration of pregnancy is divided into 3 periods, namely trimester 1 (0-3 months), second trimester (4-6 months) and third trimester (7-9 months).

Maternal death and neonatal death are interconnected conditions. Maternal health during pregnancy will have an impact on the health of the baby being conceived. The current maternal mortality rate (MMR) in the world is 313,000 that occurs due to complications from pregnancy and childbirth. Indonesia is a contributor to 65% of maternal deaths from twelve countries that have the highest mortality rate in the world [2]. The maternal mortality rate in Indonesia is still high at 305 per 100,000 live births (KH) in 2015. When compared with neighboring countries: Vietnam 49 per 100,000 live births, Thailand 226 per 100,000 live births, Brunei 27 per 100,000 live births, and Malaysia 29 per 100,000 live births [2]. West Java is one of the areas that has a high maternal

mortality rate, in 2015 the number of cases of maternal death due to pregnancy, childbirth, and childbirth increased sharply from 748 cases in 2014 to 823 cases in 2015 [3].

According to Ministry of Health data in 2012, 28% of direct causes of high maternal mortality are bleeding that can be caused due to weakness of uterine contractions or maternal weakness and this condition can be overcome by doing pregnancy exercises [4]. Pregnancy exercise is one of the efforts that can be done to produce a better delivery outcome, because it is able to overcome the factors that cause prolonged or prolonged labor, by increasing maternal energy during labor. This happens because of increased levels of endorphin hormone which functions as a painkiller [5].

Pregnancy exercises have several benefits such as reducing heart rate abnormalities, umbilical cord and meconium, decreasing energy use, reducing pain, and improving Apgar scores [5]. Pregnant exercise can reduce the incidence of prolonged labor 5 (five) times compared to women who do not pregnancy exercise. Pregnancy gymnastics is also a preventive and promotive effort to prepare pregnant women in the face of a healthy pregnancy and childbirth so that the future impact will be able to reduce maternal mortality (AKI) [6]. Some studies have shown the positive influence of pregnancy exercises on problems that experienced by pregnant women namely reduced back pain [7,8]. Research showed the results that women who exercise more quickly through childbirth during the second stage of labor compared with women who are not pregnant exercise [9,10].

There are several factors that influence the implementation of pregnancy exercise, Hidayah states that the factors that support the implementation of pregnancy exercise are knowledge, attitude, perception and work status [11]. Research results most pregnant women have negative perceptions about gymnastics [12,13], in contrast [14-16] that most pregnant women have positive perceptions about pregnancy exercise. According to Lewis, most pregnant women have negative perceptions because they think that pregnancy exercises will be at risk for their pregnancy [17].

Based on the description above, researchers are interested in finding out the Contribution of Characteristics of Pregnant Women to Pregnancy Exercise Perception.

**II. METHOD**

The design used in this study is a cross-sectional study. The population is 629 second trimester pregnant women. The sampling technique used is stratified sampling with a large sample studied as many as 153 trimester II pregnant women with inclusion criteria namely: trimester II pregnant women who follow pregnancy exercises, healthy pregnancy without complications, pregnant women who can read and write. While exclusion criteria are: high-risk pregnant women, pregnant women who have chronic diseases such as heart, lung, diabetes mellitus and are not willing to participate in this study as evidenced by signing an informed consent. The observed variables include the dependent variable, the perception of pregnant women and the independent variables are education, age, occupation and number of live births.

Variable perception of pregnant women is measured by a research instrument in the form of a questionnaire made by the researcher himself containing positive and negative statements about the perception of pregnancy exercise as many as 40 statements. Interviews were conducted to collect data and information about the characteristics of pregnant women. Data analysis was carried out by univariate to get a picture of each variable and bivariate to identify variables that were thought to be related to the dependent variable in the perception of pregnant women. Bivariate analysis was performed using the chi square test method with the value  $\alpha = 0.05$

**III. RESULTS**

Information obtained based on the results of research on perceptions about pregnancy exercise in second trimester pregnant women can be seen in the table below.

**A. Univariate Analysis**

Data on the demographic characteristics of respondents included age, education, occupation, and number of live births.

TABLE I. FREQUENCY DISTRIBUTION OF RESPONDENT DEMOGRAPHIC CHARACTERISTICS

Variables	Frequency	Percentage
<b>Age</b>		
< 20 years	17	11,1
20-35 years	113	73,8
>35 years	23	15
<b>Education</b>		
SD	35	22,9
SMP	65	42,5
SMA	53	34,6
<b>Occupation</b>		
Working	53	34,6
Not work	100	65,4
<b>Number of live births</b>		
≤ 2 children	105	68,6
> 2 children	48	31,4

Characteristic description of pregnant women shows that most (73.9%) aged 20-35 years, with the most education of junior high school graduates (42.5%), in general as many as 65.4% of pregnant women in this study did not work. Almost

all 68.6% of pregnant women have less or equal live births with 2 children.

**Description of Perceptions about Pregnancy Exercise in Trimester II Pregnant Women in Sumedang District.**

TABLE II. THE FREQUENCY DISTRIBUTION OF PERCEPTION ABOUT PREGNANCY EXERCISE

Persepsi	Frequency	Percentage (%)
Positive	77	50.3
Negative	76	49.7
Total	153	100

In this study as a whole the results obtained that second trimester mothers have positive perceptions about pregnancy exercise as many as (50.3%). Respondents understand the meaning, purpose, benefits, indications, contraindications and supporting factors of pregnancy exercise.

**B. Bivariate Analysis**

Based on table 3 shows the respondent characteristics related to the perception of pregnant women about pregnancy exercise only educational factors with value Pearson Chi-Square 0,037.

**IV. DISCUSSION**

Based on the results of research and data analysis that the age of 153 respondents (73.9%) is 20-35 years. According to researchers, most women in the Situ Sumedang Health Centre area were married at a young age. This young woman does not delay to have children immediately even at the age of 20-35 years is a reproductive age where this age is suitable for a woman to get pregnant. Respondents aged 20-35 years (74.1%) have a positive perception about pregnancy exercise because of the memory of the information received and the experience of doing pregnancy exercises that the benefits have been felt by the respondents themselves. This is in accordance with the statement of BKKBN which states that the ideal age for a woman to get pregnant is in the age range of 20-35 years because at that age it is a safe age for childbirth and in a fertile state, where the memory of information received both directly and indirectly will be easier to remember and understand [18].

Ganggu on "An Overview of Pregnant Women's Knowledge of Pregnancy Gymnastics at BKIA William Booth Hospital in Surabaya" states that the characteristics of respondents who were mostly aged 20-35 years were 33 (89%) respondents. Then the respondent has the ability to think and process various information and easily understand information about pregnancy exercises so that the knowledge obtained is good and can be applied in his life [19]. But Maya & Pratama's research (2018) on "Factors Affecting Pregnancy Exercise" states that age <20 years and > 35 years are the most respondents (76.7%). Age <20 years and > 35 years is a high risk gestational age so it is important in carrying out pregnancy exercises to maintain the health of the mother and fetus.

The education of respondents in this study varied, as many as 17.6% had an elementary school education, 35.3% had a junior high school education and the most were high school

TABLE III. RESPONDENT DISTRIBUTION ACCORDING TO CHARACTERISTICS OF PREGNANT WOMEN AND PERCEPTION

Characteristics	Category	Perception				Total	P value
		Negative		Positive			
		N	%	N	%		
Age	< 20 th	7	18,90%	10	8,60%	17 (11,1%)	0,166
	20- 35 th	29	78,40%	94	81%	123 (80,4%)	
	> 35 th	9	24,30%	14	12,10%	23 (15%)	
Education	Elementary	8	15,70%	27	26,50%	35 (22,9%)	0,037
	JHS	29	56,90%	36	35,30%	65 (42,5%)	
	SHS	14	27,50%	39	38,20%	53 (34,6%)	
Occupation	Work	13	25,50%	40	39,20%	53 (34,6%)	0,93
	Not Work	38	74,50%	62	60,80%	100 (65,4%)	
Number of children alive	≤ 2	35	33,30%	70	66,70%	105 (68%)	0,811
	> 2	17	35,40%	31	64,60%	48 (31,4%)	

(45.8%) while for DIII and S1 respectively (0.7%). Based on research, the majority of respondents are only in high school education because most of the economic level of the community is medium with entrepreneurial livelihoods. After graduating from high school, most did not continue their education but instead began looking for work or opening their own businesses. According to the researchers respondents who had a high school education (49.3%) had a positive perception of pregnancy exercise because the respondents attended a pregnant women class held, although respondents did not continue their education to a higher level but their curiosity was high and felt the need to do pregnancy exercises for maternal health and fetus. Researchers also assume that the importance of providing education to respondents, especially respondents who have a junior high school and elementary school education.

Lichayati's theory that education is one of the factors that influence one's thinking because highly educated people will broaden their views and are more receptive to new ideas and procedures for life, so people with higher education will be more aware and feel the need to seek health information independently [20]. The research of Neni, on "Relationship between the Level of Knowledge and Motivation of Primigravida Mothers with Participation in Pregnancy Exercise at the Korpri Health Center in Sungai Raya District" that high school education (59.0%) has a high percentage because the higher a person's education is the easier it will be receive information specifically on the participation of pregnancy exercises [21].

Occupation characteristics, almost all (99.3%) of respondents do not work i.e. only become housewives. Women who work are no longer something new in increasing learning opportunities for women to take part outside the home. Some women work outside the home with pure intentions, which is to help their husbands meet their household needs, some want to devote themselves to caring for their families. Respondents who did not work (100%) had a positive perception of pregnancy exercise even though only a housewife because if there is spare time, respondents are still looking for information and taking time to do pregnancy exercise

The Gender theory that the most important position for women in the family is as a wife and mother who regulate the course of the household and care for children [22,23]. Women who do not work will have enough free time to find information. Ida's research concerning "The Work of Multigravida Pregnant Women Who Implement Pregnancy Exercise" states that the majority of respondents' jobs are housewives by 5 respondents (50%). Mothers have free time to search for information and do pregnancy exercises which are programmed in the class of pregnant women [24]. But Lichayati's research on "Relationship of Pregnant Gymnastics and Back Pain in Pregnant Women at Polindes in Tikanak Village, Kedungpring District, Lamongan Regency" the majority of respondents' jobs are private or self-employed (60.6%) and have negative perceptions because working mothers have less free time in following pregnancy exercises or only a few times doing pregnancy exercises independently [20].

Number of living children ≤ 2 children make up the majority of people because it is in accordance with a government program that says that 2 children are better. Mothers with a second pregnancy (46.1%) have a positive perception. According to researchers, because of previous pregnancies the respondents had carried out pregnancy exercises and the benefits had already been felt by themselves. In line with Lichayati's research on "The Relationship of Pregnant Gymnastics and Back Pain in Pregnant Women at Polindes, Tikanak Village, Kedungpring District, Lamongan Regency") shows that almost half (48.5%) respondents of second pregnancy. Mothers with second pregnancies have experienced pregnancy exercise [20].

Another case with research conducted by Ganggu on "An Overview of Pregnant Women 's Knowledge of Pregnancy Exercise at BKIA William Booth Hospital in Surabaya" shows that based on the characteristics of pregnancy, most are the first pregnancies of 25 (67%) respondents [19]. The first pregnancy does not make the knowledge of pregnant women about pregnancy exercises less, the first pregnancy can be more motivated to do pregnancy exercises to achieve maternal and fetal health.

In this study as a whole the results obtained that second trimester mothers have positive perceptions about pregnancy exercise as many as (50.3%). Respondents understand the meaning, purpose, benefits, indications, contraindications and supporting factors of pregnancy exercise. This study is not in line with previous studies conducted by Penny & Harriet that of 27 women 16 (88%) had negative perceptions about pregnancy exercise and trying to avoid [25]. While eleven women have a positive perception because they believe that participation in physical exercise will cause increased muscle flexibility. According to researchers, perception is influenced by knowledge, experience and attitude. Based on research, second trimester mothers with multigravida pregnancy have had good experiences regarding pregnancy exercises such as sleep better, less stress, less back pain, and faster labour. This is in line with the theory of Toha, that the factors that influence one's perception are internal and external factors which include knowledge, experience and one's attitude [26]. Supported by Ida's research states that as many as 6 people (100%) multigravida pregnant women have good delivery experience because they apply pregnancy exercises regularly [24]. This is a result of the experience and maturity of his soul.

Based on research, respondents already have knowledge of pregnancy exercise because health education has been given in advance by health workers in the class of pregnant women. Theory of Notoatmodjo states that knowledge is the sensing process of an object, sensing includes: the senses of sight, hearing, smell and taste [27]. The senses of the eyes and ears greatly influence human knowledge. Susilawati's research results about the Relationship between the Level of Knowledge and Attitudes of Pregnant Women About Pregnancy Exercise and the Implementation of Pregnancy Exercise in the Kubu Marapalam Sub-District of the Andalas Padang Health Center, stated that out of 37 respondents there were 21 respondents (57%) who had low levels of knowledge, while only 16 respondents (43%) have a high level of knowledge [13].

Perception is influenced by attitude. Based on research, respondents showed an attitude of agreement with the holding of pregnancy exercises, respondents agreed with the importance of pregnancy exercises. Attitude is a reaction or response that is still closed from someone to a stimulation or object. In line with Aisyah's research, pregnant women who have attitudes that agree to participate in pregnancy exercise are 24 respondents (61.5%), while respondents who have an attitude that does not agree with pregnancy exercises are 15 respondents (38.5%) [28]. A moderate physical activity program that is performed over the first, second, and third trimester of pregnancy improves the maternal perception of health status [29-32].

#### V. CONCLUSIONS

Based on the results of research that has been done it can be concluded that as many as 77 respondents (50.3%) of 153 respondents have positive perceptions regarding pregnancy exercise. Factors that influence perceptions of second trimester pregnant women are knowledge, experience and attitudes. It is recommended for families to provide more motivation and support for pregnant women to do pregnancy exercise exercises

and be strengthened by health workers to be more intense and to observe the implementation of pregnancy exercise exercises.

#### REFERENCES

- [1] E. Yulistiana, "Hubungan Pengetahuan Ibu Dan Dukungan Suami Pada Ibu Hamil Terhadap Keteraturan Kunjungan Antenatal Care (Anc) Di Puskesmas Wates Lampung Tengah Tahun 2015," *Jurnal Kebidanan Vol 1*, No 2, 2015.
- [2] WHO, "Trends in Maternal Mortality: 1990 to 2015," Geneva: WHO, UNICEF, UNFPA, and The World Bank, 2015.
- [3] Kemenkes, "Profil Kesehatan Indonesia Tahun 2017," Jakarta: Kementerian Kesehatan Republik Indonesia, 2018.
- [4] Kemenkes, "Profil data kesehatan Indonesia tahun 2011," Jakarta: Kementerian Kesehatan Republik Indonesia, 2012.
- [5] S. Hanton, and D. Fletcher, "The Relationship between psychological skill usage and competitive anxiety responses," *Psychology of sport and exercise*, vol. 2(2), pp.89-101, 2001.
- [6] Y.A. Rukiyah, "Dokumentasi Kebidanan. Jakarta : CV. Trans Info Media, 2014.
- [7] A.R. Puspitasari, "Hubungan Senam Hamil Dengan Nyeri Punggung Pada Ibu Hamil Trimester III," (Skripsi). Stikes Yarsi, 2013.
- [8] Kartikasari, "Hubungan Senam Hamil Dengan Nyeri Punggung Pada Ibu Hamil Di Polindes Desa Tikanak Kecamatan Kedungpring Kabupaten Lamongan," *Jurnal Surya*, vol. 01, No. XIV, 2013.
- [9] Rusmiati, "Hubungan Senam Hamil Dengan Persalinan Pada Ibu Bersalin Di Wilayah Kerja Puskesmas Tanta," *Jurnal Dinamika Kesehatan*, Vol. 8, No.1, 2017.
- [10] Yusnia, "Hubungan Senam Hamil Dengan Persalinan Kala II pada Ibu Primigravida di RS Sadewa Yogyakarta. (Skripsi). Yogyakarta, 2015.
- [11] Hidayah, "Hubungan Faktor Internal dengan Peran Serta Ibu Hamil dalam Mengikuti Senam Hamil," *Jurnal Bidan: Midwife Journal*, vol. 5, No.1, pp. 31-38, 2014.
- [12] E. Sari, "Persepsi Ibu Hamil Dalam Mengikuti Kelas Ibu Hamil di Kelurahan Kadipaten Wilayah Kerja Puskesmas Babadan Kabupaten Ponorogo. (Skripsi), vol. 39(5), pp. 561-563, 2008.
- [13] D. Susilawati, "Hubungan Tingkat Pengetahuan Dan Sikap Ibu Hamil Tentang Senam Hamil Dengan Pelaksanaan Senam Hamil Di Kelurahan Kubu Marapalam Wilayah Kerja Puskesmas Andalas Padang Tahun 2017. *Jurnal Menara Ilmu*, vol XI, No.77, 2017.
- [14] W. Sari, "Hubungan Senam Hamil Dengan Karakteristik Kala I Pada Ibu Primigravida Di RS Sumber Kasih Kota Cirebon Tahun 2013," Cirebon, 2014.
- [15] Montejo, "Exercise During Pregnancy Improves Maternal Health Perception: A Randomized Controlled Trial," *American Journal of Obstetrics and Gynecology*, vol. 204(5), pp. 402.e1-402.e7, 2011.
- [16] Z. Sui, and J.M. Dodd, "Exercise in obese pregnant women: positive impacts and current perceptions," *International journal of women's health*, vol. 5, p.389, 2013.
- [17] B. Lewis, M. Avery, E. Jennings, N. Sherwood, B. Martinson, and A.L. Crain, "The Effect of Exercise During Pregnancy on Maternal Outcomes: Practical Implications for Practice, *American Journal of Lifestyle Medicine*, vol. 2(5), pp. 441-455, 2008.
- [18] BKKBN, "Pelayanan Kontrasepsi," Jakarta: BKKBN, 2012.
- [19] A.H. Ganggu, "Gambaran Tingkat Pengetahuan Ibu Hamil Tentang Senam Hamil di BKIA Rumah Sakit Wiliam Booth Surabaya. *Jurnal Kebidanan*, 2018.
- [20] I.U. Lichayati, and R.I. Kartikasari, "Hubungan senam Hamil dengan Nyeri Punggung Pada Ibu Hamil di Polindes Desa Tlanak Kecamatan Kedungpring Kabupaten Lamongan. *Jurnal Surya*, 1, 2013.
- [21] Neni, "Hubungan Tingkat Pengetahuan Dan Motivasi Ibu Primigravida Dengan Keikutsertaan Dalam Senam Hamil Di Puskesmas Korpri Kecamatan Sungai Raya, vol 3, pp. 1321-1333, 2015.
- [22] V. Beechey, "Women's Employment in Contemporary Britain," In Beechey,V and Whitelegg, E. (00). *Women in Britain Today*. Milton Keynes: Open University Press pp 77 – 132, 1986.

- [23] L. Bondi, "Gender divisions and gentrification: a critique," *Transactions of the Institute of British Geographers*, pp.190-198, 1991.
- [24] Ida, "Pengaruh Senam Hamil Teratur pada Primigravida terhadap Perubahan Psikofisiologis Ibu dan Berat Badan Lahir Bayi," *IJMCE*, vol 2, No 3, 2012.
- [25] Penny and Harriet, "Women's behaviour, beliefs and information sources about physical exercise in pregnancy," *Journal of Midwifery*, vol. 20, Issues 2, pp. 133-141, 2014.
- [26] Toha, "Perilaku Organisasi Konsep Dasar dan Aplikasinya," Jakarta: Grafindo Persada. 2014.
- [27] S. Notoatmodjo, "Promosi Kesehatan dan Perilaku Kesehatan," Jakarta: PT Rineka Cipta, 2012.
- [28] Aisyah, "Gambaran Pengetahuan Dan Sikap Ibu Hamil Terhadap Senam Hamil Di Puskesmas Rawasari Kota Jambi," *Jurnal Ilmiah Universitas Batanghari Jambi*, vol.8, No.2, 2008.
- [29] R. Barakat, M. Pelaez, and R. Montezo, "Exercise during pregnancy improves maternall health perception: A Randomized controlled trial," *American Journal of obstetrics and gynecology*, vol. 204(5), pp. 402.e1-402.e7, 2011.
- [30] S.L. Nascimento, F.G. Surita, and J.G. Cecatti, "Physical exercise during pregnancy: a systematic review," *Current Opinion in Obstetrics and Gynecology*, vol. 24(6), pp. 387-394, 2012.
- [31] S.L. Nascimento, F.G. Surita, M.A. Parpinelli, S. Siani, and J.L. Pinto e Silva, "The effect of an antenatal physical exercise programme on maternal/perinatal outcomes and quality of life in overweight and obese pregnant women: a randomised clinical trial," *BJOG: An International Journal of Obstetrics & Gynaecology*, vol. 118(12), pp. 1455-1463, 2011.
- [32] R. Barakat, M. Pelaez, Y. Cordero, M. Perales, C. Lopez, J. Coteron, and M.F. Mottola, "Exercise during pregnancy protects against hypertension and macrosomia: randomized clinical trial," *American journal of obstetrics and gynecology*, vol. 214(5), pp. 649-e1, 2016.