

Nursing Intervention For Mother With Postpartum Fatigue : A Literature Review

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Abstract

Postpartum fatigue is a common and natural phenomenon that often affects mothers after giving birth. This phenomenon occurs immediately after delivery and reaches the highest level of fatigue in the first 24 hours, so non-pharmacological nursing interventions are very effective when focused from the beginning of the postpartum period to reduce the level of postpartum fatigue. This literature aims to determine effective nursing interventions used to reduce postpartum maternal fatigue. The method used in this literature review begins with determining the topic, then determining keywords to search for journals. Scopus, ScienceDirect and PubMed are the databases used, searching for journals from 2010 to 2018 consisting of several research articles. The results of the synthesis of articles that have been explored show that nursing interventions with non-pharmacological methods can be applied to reduce fatigue in postpartum mothers, this is because non-pharmacological methods are easier, cheaper, acceptable to patients, non-invasive and without side effects. An effective nursing intervention to reduce postpartum fatigue is to choose one of the methods including slow stroke back massage, meridian acupressure and pilates exercises.

Keywords: *fatigue, postpartum, nursing intervention, slow stroke back massage, meridian acupressure and pilates exercises*

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Introduction

Postpartum fatigue is a phenomenon that often affects after childbirth. This phenomenon occurs immediately after delivery and reaches the highest level of fatigue at 24 hours after delivery (Kuo, 2012). The results showed that the most frequently reported physical health problems in the first 0-6 weeks of the postpartum period were

77.5% fatigue, 76.0% sleep disturbances, and 61.3% dysuria (Aksu, Varol, & Hotun Sahin, 2017). The results of other studies say that mothers experience fatigue after giving birth, where the level of fatigue is high at 68.89%, moderate to 24.44%, and low at 6.67% (Saragih, Hapsari, & Sumarni, 2015). High levels of fatigue that occur in early postpartum will prevent mothers from

adapting to their new roles as new mothers and can also cause postpartum depression (Choi SY, Gu HJ, 2011).

The causes of postpartum fatigue are physical fatigue due to childbirth, lack of sleep, recovery after childbirth, unfamiliarity with caring for babies, feelings of unfocused, unmotivated feelings, feelings of anxiety and depression (Tsuchiya et al., 2016). Although postpartum fatigue is common and a natural phenomenon, it should receive attention because of its extraordinary nature. The occurrence of problems in physical adaptation and psychological stress in the postpartum period can have a negative impact on the mother so that it interferes with her adjustment to daily life, and negative feelings that tend to lead to postpartum depression (Jung, Choi, Kang, & Choi, 2017).

Extreme fatigue in postpartum mothers can cause the risk of infection of reproductive organs due to weak immune conditions and can even result in death of the mother if she does not get postpartum care properly and periodically, so that efforts to improve the quality of life of postpartum women are carried out by nursing interventions for mothers. very effective when focused from the beginning of the postpartum

period to reduce the level of perceived postpartum fatigue (Kusumasari Viantika, 2018).

Non-pharmacological nursing interventions can be given to postpartum mothers in reducing fatigue felt after giving birth, this is because non-pharmacological methods are easier, cheaper, acceptable to patients, non-invasive and without side effects. Nursing interventions that can be applied to help reduce fatigue felt after childbirth vary widely, including slow stroke back massage, meridian acupressure and pilates exercises (Aliabadi & Rahdari, 2016; Jung et al., 2017; Ashrafinia et al., 2015). This postpartum period provides an opportunity for maternity nurses to be involved in providing non-pharmacological therapy in accordance with the support from research results (evidence based practice).

Method

The method used in this literature review begins with determining the topic, then determining keywords to search for journals. Scopus, ScienceDirect and PubMed are databases used in the search for journals from 2010 to 2018 consisting of several research articles. The keywords used are

fatigue, postpartum, nursing intervention, slow stroke back massage, meridian acupressure and pilates exercises.

Result and Discussion

A. Postpartum Fatigue

In general, fatigue is a condition in which an individual lacks energy and feels tired. Postpartum fatigue is one of the common phenomena reported by postpartum mothers and is defined as a subjective feeling. The phenomenon of fatigue can include multidimensional physical, behavioral, and psychological components (Aliabadi & Rahdari, 2016). Postpartum fatigue is physical fatigue due to childbirth, lack of sleep, recovery after childbirth, unfamiliarity with caring for the baby, feeling unfocused, feeling unmotivated, feeling anxious and depressed (Tsuchiya et al., 2016).

Primiparous women tend to complain of fatigue after giving birth primipara (Ashrafinia et al., 2015), this is because in the postpartum period there will be a transitional phase that affects the mother's physical, mental health, and hormonal changes. The birth of a child is

a stressful and significant transitive event in life, especially for primiparous mothers (Yelland J, Sutherland G, 2010).

The results showed that the most frequently reported physical health problems in the first 0-6 weeks of the postpartum period were 77.5% fatigue, 76.0% sleep disturbances, and 61.3% dysuria (Aksu et al., 2017). The results of other studies say that mothers experience fatigue after giving birth, where the level of fatigue is high at 68.89%, moderate to 24.44%, and low at 6.67% (Saragih et al., 2015).

Kuo (2012) studied 121 mothers in Taiwan from the third trimester to 1 week postpartum and found that the level of fatigue was highest at 1 day postpartum, and showed a decrease in fatigue by the seventh postpartum day. Another study conducted with 197 mothers in Taiwan from the second trimester to 1 month postpartum reported that the level of fatigue increased from the second to the third trimester and remained unchanged until 1 month postpartum (Cheng et al., 2015).

B. Nursing Intervention to decrease postpartum fatigue

The treatment that can be given in the postpartum period to reduce the fatigue felt by the mother after giving birth is a non-pharmacological nursing intervention, because non-pharmacological methods are easier, cheaper, acceptable to patients, non-invasive and without side effects. The following is a description of non-pharmacological nursing intervention methods that are effective for reducing fatigue ***Slow Stroke Back Massage. Meridian Accupressure Massage dan Pilates Exercise***

Slow Stroke Back Massage

Slow stroke back massage is a massage with a simple technique, cheap, fast, and is a non-invasive nursing intervention. Massage affects the central nervous system and releases central analgesic substances such as endorphins and encephalons. The movements used cause quite a sensational effect and are very beneficial for the patient's relaxation effect (Aliabadi & Rahdari, 2016).

Slow stroke back massage is a nursing intervention that can reduce fatigue and emotional comfort of patients in

primiparous mothers after spontaneous delivery. Slow stroke back massage is done with gentle skin movements, slow, rhythmic hand movements, sliding over the skin all over the body and starting from the posterior part of the body. This movement is carried out at a speed of 60 movements in one minute and takes about 20 minutes (Aliabadi & Rahdari, 2016).

The results of this study indicate that slow stroke back massage is effectively used to reduce postpartum fatigue in primiparous mothers after spontaneous delivery and can improve their quality of life. Many women and their families have little information about the effects of the postpartum period, especially postpartum fatigue. Interventions such as back massage slow stroke back massage can provide an effective effect, without side effects, easy, inexpensive, can be done at home, can be easily taught and non-invasive measures to prevent and relieve fatigue (Aliabadi & Rahdari, 2016).

Meridian Accupressure Massage

Meridian acupressure massage helps restore balance between organs,

maintains body balance by massaging the acupressure point areas, activates the parasympathetic nervous system and puts the body in a relaxed state, thereby increasing blood circulation. Meridian accupressure massage is done once a day for 90 minutes, done over 5 days. Each meridian accupressure massage consists of a 5-minute preparatory stage, 80-minute main stage (1.abdomen, 2.upper limbs, 3.chest, abdomen, 4.back, 5.lower limbs), and a 5-minute finishing (Jung et al., 2017).

Meridian acupressure massage has a positive effect on the psychological stress response, can reduce edema, reduce total subjective stress, reduce psychological stress, and reduce subjective fatigue after childbirth. Through quantitative measurement of physiological parameters, the results of this study identified that meridian acupressure massage produces a positive impact on the body and edema, by controlling the function of internal organs, increasing blood and lymph circulation. Giving meridian accupressure massage will cause physical, psychological, mental relaxation, reduce

stress and fatigue in postpartum mothers (Jung et al., 2017).

Pilates Exercise

Pilates exercise was introduced by Joseph Pilates in the early 20th century, pilates exercise is considered a good method to speed up recovery after pregnancy. Pilates consists of a series of 13 movements: bridging; hundred; roll ups; one leg circle (both ways); rockers with closed legs; single straight leg stretch; double leg stretches; spine stretch forward; single leg kicks; side kick ups and downs; side kick circles; rest position (stretch and relaxation); and curling (Ashrafinia et al., 2015).

The exercises are stretching movements focused on deep breaths, including full body stretching and core strengthening. This exercise is recommended for women during the postpartum period as long as there are no medical problems in the postpartum mother. This exercise begins 72 hours after delivery until 8 weeks after delivery and is performed for half an hour every day according to the recommendations of the

American College of Obstetricians and Gynecologists (Ashrafinia et al., 2015).

The results of this study indicate that pilates exercise at home is an effective, healthy and feasible method to reduce postpartum fatigue. Pilates exercise is popular because it is economical, can be done at home, does not interfere with raising children, reduces fatigue, and reduces the risk of depression (Ashrafinia et al., 2015).

C. The Role of Maternity Nurses in Kolcaba's Comfort Theory on Postpartum Maternal Fatigue

The application of the nursing model of Catharine Kolcaba in comfort theory argues that humans have a comprehensive response to complex stimuli and a sense of comfort, which is the result as a response to the stimulus. To get this feeling of comfort, mothers try to be active by trying to behave in a healthy life in their lives and trying to get satisfaction in care (Alligood, 2010).

Comfort theory as a middle range theory has a low level of abstraction and is easy to apply in nursing practice. Maternity nurses can apply comfort nursing

theory to provide comfort due to fatigue felt after childbirth (Alligood, 2010). Postpartum mothers in the first 24 hours need the partially compensatory nursing system in the early postpartum stage (Kuo, 2012). Postpartum mothers need help from nurses in considering physiological and psychological conditions, especially in the aspect of perceived fatigue (Alligood, 2010).

Catherine Kolcaba's nursing model in Comfort theory aims to increase comfort. Comfort according to Kolcaba's theory of comfort is defined as an immediate experience that becomes a strength through the need for relief, ease and transcendence that can be fulfilled in four experience contexts including physical, environmental, psychospiritual and social aspects in order to reduce fatigue in postpartum mothers (Alligood, 2010).

Conclusion

Nursing interventions with non-pharmacological methods can be applied to reduce fatigue in postpartum mothers, this is because non-pharmacological methods are easier, cheaper, acceptable to patients, non-invasive and without side effects. Effec-

tive nursing interventions to reduce postpartum fatigue by choosing one of them slow stroke back massage, meridian acupressure and pilates exercises

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Massage Therapy to Relieve Menopausal Symptoms: A Systematic Review

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Abstract

Objective: This study aims to analyze the duration, time, and results of massage therapy in reducing symptoms of menopause. Methods: A systematic review through maternity nursing articles to analyze the effects of massage therapy in reducing menopausal symptoms. The inclusion criteria in this study are 1) related articles about massage therapy. 2) Articles that contain interventions used in reducing menopausal symptoms. 3) Articles use English in writing. 4) Articles published after 2010. 5) Articles published have a complete section. Search articles using electronic databases namely Sciene Direct, Pubmed, PMC, Google Schoolar and Scopus. Articles that meet the inclusion criteria will be collected and analyzed systematically. Results: In a systematic review it is explained that massage therapy can reduce menopausal symptoms but in the location and duration of the intervention still need consideration from further researchers. Conclusion: Based on the results of the study, massage therapy carried out in the back area is recommended to reduce menopausal symptoms.

Keywords: *massage therapy, menopause, menopausal symptoms, women*

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Introduction

Menopause is a condition in which ovarian activity decreases (reduced estrogenic activity), leading to different signs & symptoms. Often, the first sign is menstrual irregularity. Vasomotor symptoms include hot flushes, palpitations, fatigue and weakness (Cook, 2016). Symptoms occur at night, disrupting sleep patterns leading to insomnia. Other

important physical changes are vaginal dryness, headache, irritability, mood swings & nervousness, difficulty concentrating, depression. (O'malley, 2016).

Management in reducing menopausal symptoms can use pharmacological management such as estrogen hormone replacement therapy, gabapentin, antidepressants, clonidine, but it can cause dependence and constipation

effects (Ruffin, 2011). Another treatment that is an option is non-pharmacological management, which is easy, without drugs, non-invasive, does not require a lot of money and can choose and make their own decisions for the therapy used (Senol, 2017). Treatments that can be used to manage symptoms of the menopausal transition period are massage therapy (Pacholyk, 2015).

Research from (Allah, 2018), postmenopausal women in the massage therapy group which were carried out in the back area twice for 30 minutes a week and were performed experienced a significant increase in overcoming menopausal symptoms such as a decrease in the frequency of hot flushes and night sweats, a decrease in urinary symptoms. and dyspareunia. A very significant improvement was observed in psychological symptoms. In line with the research above, research by (Fatemeeh, 2012) in Tehran, Iran showed that massage therapy intervention on the back for two times 30 minutes in one week and carried out for four weeks can reduce menopausal symptoms. Many previous studies have discussed massage that is useful for reducing complaints of

menopausal symptoms. However, previous studies have presented different results regarding massage duration, so this systematic review aims to identify non-pharmacological massage nursing interventions that have an impact on reducing menopausal symptoms by looking at these three aspects, namely: massage duration, massage time and changes in menopausal symptoms.

Method

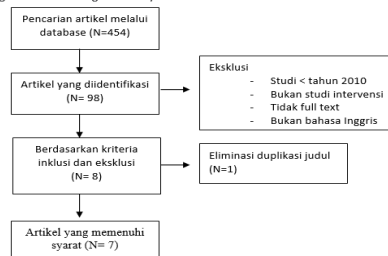
Search Strategy

A systematic review through nursing articles related to massage to reduce menopausal symptoms. Articles are obtained from retrieval via the internet which is connected to a database. Electronic databases used are Scine Direct, Pubmed, PMC, Google Scholar and Scopus. Search articles using the keywords “massage therapy”, “menopause”, “menopausal symptoms”, and “women”. Article limitation is done by using articles published after 2010.

This systematic protocol uses the PICO keyword to increase the accuracy and completeness of reporting intervention studies. The PICO keywords used were: P

(menopause women), I (massage therapy), C (pre post massage therapy), and O (menopausal symptoms).

Diagram 1. Flow Diagram Study



Inclusion Criteria and Exclusion Criteria

The inclusion criteria of the articles used are: 1) articles related to massage therapy. 2) Articles containing interventions used in reducing menopausal symptoms. 3) Articles use English in writing. 4) Articles published after 2010. 5) Articles published have complete parts.

Article exclusion criteria used are:

1) Articles published less than 2010. 2) Use of non-English language. 3) The published article is not complete.

Search Flow

The search was conducted using the Sciene Direct, Pubmed, PMC, Scopus and Proquest databases using the keywords: “massage therapy”, “menopause”,

“menopausal symptoms”, and “women”.

The articles that appear are then sorted so that no articles with the same title are found. Furthermore, the articles were sorted based on the inclusion and exclusion criteria. Articles that only display abstracts will be eliminated, so that articles will be analyzed.

Article Extraction

The articles obtained were then extracted. Extraction of articles based on the author of the article, the year of publication of the article, the number of samples used, the duration of massage, the time taken when massaging, the results of the research carried out, and the article database.

Synthesis of Results

Data synthesis was carried out qualitatively by the author and two co-authors by discussing to analyze the selected studies. All interventions aimed at assessing the reduction of menopausal symptoms. The synthesis of the results is shown in Table 1.

Table 1. Syntetic Grid

No	Author/Year	Title	Aims	Methods	Results
1	Yang Kyung-Hee et al, 2015 (Jeong-Ran, 2015)	The Effects of Meridian Massage on Menopausal Symptoms and Shin-Hur in Middle-aged Menopausal Women	Untuk mengidentifikasi efek pijat meridian pada gejala menopause dan Hur pada wanita menopause .	Quasi experimental pre test post test control design/ 18 control and 18 Pemberian pijat meridian dilakukan selama tiga kali seminggu dengan waktu masing-masing 20 menit dan dilakukan selama empat minggu	Eksperimental kelompok menunjukkan penurunan signifikan gejala menopause (U = 77,00, p = 0,020) dan Shin-Hur (U = 76,00, p = 0,017). Ada korelasi positif yang signifikan antara gejala menopause dan Shin-Hur (r = 0,497, p = 0,003).
2	D. Oliveira et al, 2018	Effect of therapeutic massage climacteric symptoms in postmenopausal women	Untuk mengetahui efek terapi pijat pada gejala klimakterik perempuan menopause	Quasi eksperimental/ 15 group control dan 15 group intervensi Pemberian pijat terapi dilakukan selama dua kali seminggu dengan waktu masing-masing 60 menit dan dilakukan selama delapan minggu	Pijat terapi pada perempuan menopause memiliki efek yang signifikan pada penurunan gejala menopause khususnya pada insomnia, yang diukur dengan ISI (Insomnia Severity Index) P=0,000
3	Darsareh et al, 2012	Effect of aromatherapy massage on menopausal symptoms	Mengetahui efek dari pijat aromaterapi pada gejala menopause	Quasi eksperimental 30 group control dan 30 group intervensi Pemberian pijat punggung dengan minyak	Pijat aromaterapi efektif dalam mengurangi gejala menopause, yang diukur dengan MRS (menopause rating scale)

No	Author/Year	Title	Aims	Methods	Results
				aromaterapi (lavender, rose geranium, rosemary) dilakukan selama dua kali seminggu dengan waktu masing-masing 30 menit dan dilakukan selama empat minggu	P<0,000
4	Inas, 2018	Massage Therapy for Alleviating Menopausal Transitional Period Symptoms among Women employed at Suez Canal University Hospital	Mengetahui efek dari terapi pijat untuk mengurangi gejala periode transisi menopause di kalangan wanita Suez Canal University	Quasi eksperimental 37 group control dan 37 group intervensi Pemberian pijat punggung dilakukan selama dua kali seminggu dengan waktu masing-masing 30 menit dan dilakukan selama delapan minggu (total 16 sesi pijat) Evaluasi dilakukan setelah sesi ke 8 dan 16.	Wanita dalam kelompok terapi pijat mengalami peningkatan yang signifikan dalam banyak gejala periode transisi menopause seperti penurunan frekuensi serangan <i>hot flushes</i> dan keringat malam, penurunan pada semua gejala kemih dan <i>disparunia</i> . Peningkatan yang sangat signifikan diamati pada gejala psikologis.
5	Seyed et al, 2014	Comparison of the Efficacy of Massage and Aromatherapy Massage With Geranium on Depression in Postmenopausal Women	Untuk mengetahui efek pijat aromaterapi geranium pada depresi perempuan menopause	Clinical trial/ 40 kelompok pijat aromaterapi, 40 kelompok kontrol, 40 kelompok pijat. Pemberian pijat	Pijat aromaterapi mengurangi skor depresi rata-rata (MD: 0,51, 95% CI). Terapi pijat juga mengurangi skor depresi (MD: 0,20, 95% CI) (P <0,001). Untuk

No	Author/Year	Title	Aims	Methods	Results
				punggung yang diberika aromaterapi geranium 2% dilakukan selama satu kali seminggu dengan waktu 30 menit dan dilakukan selama delapan minggu	mendeteksi efek aromaterapi dan pijat secara terpisah, skor depresi rata-rata dibandingkan dan pijat aromaterapi mengurangi skor depresi lebih dari terapi pijat (MD: -0,31, 95% CI).
6	Taavoni et al, 2013	A Randomized Control Trial To Determine The Effect Of Massage Therapy On Menopausal Symptoms	Mengetahui efektifitas terapi pijat pada gejala menopause	Randomized control trial/ 30 eksperimental group and 30 control group Pemberian pijatan dilakukan dengan menggunakan minyak murni selama dua kali seminggu dengan waktu 30 menit dalam empat minggu.	Terapi pijat efektif dalam mengurangi gejala psikologis dan somatik selama menopause. Tapi, tidak berpengaruh pada gejala urogenital. P<0,001
7	Jan Williamson et al, 2012	Randomised controlled trial of foot massage for menopausal symptoms	Mengetahui efektifitas pijat refleksi pada gejala psikologis ibu menopause	Randomized control trial/ 38 eksperimental group and 38 control group Pemberian pijatan pada kaki dilakukan dua kali sehari dengan waktu 45 menit dalam 12 minggu.	Pijat kaki kurang efektif untuk mengatasi gejala psikologis yang terjadi selama menopause.

Result

Search result

Diagram one shows a systematic search flowchart. The search found 454 articles from the database which were identified as 98 articles and which met the inclusion and exclusion criteria as many as 8 articles, then there were duplicate titles so that seven articles were obtained that were suitable for systematic reviews.

Synthesized Study Characteristics

An overview of seven articles summarized in the characteristics associated with massage therapy interventions with the aim of assessing the reduction of menopausal symptoms. The synthesis of the results from seven articles describes the intervention given, the timing, and the results obtained. The synthesis of these results consisted of four quasi-experiments: (Yang Kyung Hee et al, 2015), (D.S Oliveira et al, 2018), (Darsereh et al, 2012), (Inas Abd Allah, 2018). One clinical trial: (Seyed et al, 2014). Two randomized control trials (Taavoni, 2013), (Jan Williamson et al, 2012)

1. Duration of massage therapy intervention

Massage therapy interventions from the seven articles reviewed explained different things regarding the duration of giving massage therapy. Research by Yang Kyung Hee et al (2015) conducted massage therapy for 20 minutes. D.S Oliveira et al (2018) explained that therapeutic massage was carried out for 60 minutes. Subsequent research by Darsereh et al (2012) Giving back massage with aromatherapy oil (lavender, rose geranium, rosemary) was carried out for 30 minutes. Research by Inas Abd Allah (2018) Giving back massage is done for 30 minutes. Research by Seyed et al (2014) Giving back massage given 2% geranium aromatherapy was carried out for 30 minutes. Meanwhile, Taavoni, (2013) did massage with pure oil for 30 minutes. And Jan Williamson et al (2012) performed a massage on the feet for 45 minutes.

2. Massage therapy massage time
The massage times of the seven articles that have been obtained have different massage times.

Research by Yang Kyung Hee et al (2015) conducted massage therapy for three times a week with a time of 20 minutes each and carried out for four weeks in the meridian area or back. D.S Oliveira et al (2018) explained that therapeutic massage was carried out twice a week for 60 minutes each and was carried out for eight weeks. Subsequent research by Darsereh et al (2012) Giving back massage with aromatherapy oils (lavender, rose geranium, rosemary) was carried out twice a week for 30 minutes each and carried out for four weeks. Research Inas Abd Allah (2018) Giving back massage is carried out twice a week with 30 minutes each and carried out for eight weeks (a total of 16 massage sessions) The evaluation was carried out after the 8th and 16th sessions. Research by Seyed et al (2014) back massage given 2% geranium aromatherapy was done once a week for 30 minutes and was carried out for eight weeks. Meanwhile, Taavoni, (2013) performed massage with

pure oil twice a week for 30 minutes in four weeks. And Jan Williamson et al (2012) performed foot massage every two days for 45 minutes and carried out for 12 weeks.

3. Changes in menopausal symptoms
Changes in menopausal symptoms from seven articles obtained the same results, namely all articles described significant changes in the decrease in menopausal symptoms in intervention/experimental patients. Research by Yang Kyung Hee et al (2015) showed a significant reduction in menopausal symptoms ($U = 77.00$, $p = 0.020$) and Shin-Hur ($U = 76.00$, $p = 0.017$). There was a significant positive correlation between menopausal symptoms and Shin-Hur ($r = 0.497$, $p = 0.003$). Research D.S Oliveira et al (2018) Therapeutic massage in menopausal women has a significant effect on reducing menopausal symptoms, especially in insomnia, as measured by the ISI (Insomnia Severity Index) $P = 0.000$. Subsequent research by Darsereh et al (2012) Aromatherapy massage is effective in reducing

menopausal symptoms, as measured by the MRS (menopause rating scale) $P < 0.000$. Inas Abd Allah's research (2018) that women in the massage therapy group experienced a significant improvement in many symptoms of the menopausal transition period such as a decrease in the frequency of hot flushes and night sweats, a decrease in all urinary symptoms and dyspareunia. A very significant improvement was observed in psychological symptoms. The study of Seyed et al (2014) Aromatherapy massage reduced the mean depression score (MD: 0.51, 95% CI). Massage therapy also reduced depression scores (MD: 0.20, 95% CI) ($P < 0.001$). To detect the effects of aromatherapy and massage therapy separately, mean depression scores were compared and aromatherapy massage reduced depression scores more than massage therapy (MD: -0.31, 95% CI). Meanwhile, Taavoni, (2013) Massage therapy is effective in reducing psychological and somatic

symptoms during menopause. However, it had no effect on urogenital symptoms $P < 0.001$. And Jan Williamson et al (2012) foot massage therapy was less effective in reducing menopausal symptoms, $P < 0.001$.

Discussion

1. Duration of massage therapy intervention

Massage therapy intervention is one of the non-pharmacological nursing interventions included in relaxation therapy in reducing menopausal symptoms. Four articles selected in a systematic review explained that the 30-minute duration of administration was effective in reducing menopausal symptoms (Taavoni, 2013; Seyed et al 2014; Inas Abd Allah, 2018 and Darsereh et al, 2012). While three articles explain different things, namely massage done for 20 minutes and 60 minutes can reduce menopausal symptoms, 45 minutes is not able to reduce menopausal symptoms (Yang Kyung Hee et al, 2015; DS Oliveira et al, 2018 and Jan Williamson et al, 2012).

2. Massage therapy time

The massage time also needs to be considered so that it can provide accurate measurement and intervention results both before and after massage therapy interventions. This review describes six different times of intervention, the intervention was carried out three times a week and within four weeks (Yang Kyung Hee et al, 2015). Twice a week for eight weeks (D.S Oliveira et al, 2018). Twice a week for four weeks (Darsereh et al, 2012 and Taavoni, 2013). Twice a week for eight weeks (Inas Abd Allah (2018). And once a week for eight weeks (Seyed et al, 2014). Twice a day for 12 weeks (Jan Williamson et al 2012). All interventions were performed at night. days because at that time it is very effective to grow the hormone melatonin and endorphins so that it helps menopausal women reduce menopausal symptoms such as hot flushes, night sweats and insomnia and anxiety.

3. Changes in menopausal symptoms

The benefits of massage therapy interventions reviewed in this systematic review are a decrease in

menopausal symptoms, massage therapy is scientific manipulation of the body's soft tissues, by rubbing. This manipulation is effective for stimulating the parasympathetic nervous system and promoting relaxation, reducing insomnia, improving sleep patterns, increasing alertness and ability to concentrate, and reducing anxiety, and reducing stress-related hormones such as epinephrine and cortisol. (Beth, 2014). Massage therapy can help women when they experience menopause symptoms at night because it can stimulate the pituitary, adrenal, thyroid, and parathyroid glands, which help balance hormone production and reduce the number of hot flushes. Long-term results can maintain immunity, reduce muscle tension, and create a more positive body image, (Charles, 2014).

The seven articles reviewed all explained different results that massage therapy techniques performed on the back were more effective in reducing menopausal symptoms after intervention and massage therapy techniques performed on the legs were

less effective in reducing menopausal symptoms.

Conclusion

After being given massage therapy intervention in the experimental group, there was a significant decrease in menopausal symptoms, but from the location and duration of giving massage therapy, it is necessary for further researchers to consider this matter more deeply.

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The Effect of Administration of Morage Brownies on Increasing Hemoglobin Levels in Pregnant Women

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Abstract

Data of Provincial Health Agency in 2017 revealed that there were 899 pregnant mothers with anemia while the second-highest number recorded in Gorontalo City for 161 people. Additionally, data of Health Agency of Gorontalo City in 2018 found Puskesmas Duingingi as the highest spot with anemia for 64 people. The research aimed to analyze the influence of moringa brownies towards the increase of hemoglobin level at pregnant mothers in the working area of Puskesmas Duingingi of Gorontalo City in 2019. Research methodology: it applied pre-experimental research with one group pre-post test approach. The population of this research was 50 pregnant mothers in trimester II and III. The sampling applied purposive sampling so that it obtained 30 people as samples. The independent variable was moringa brownies, and the dependent variable was the hemoglobin level. The finding of research: the hemoglobin level of respondents who consumed moringa brownies increased for 66,7% and those who did not increase was 33,3%. The data analysis used Mc Nemar test, which achieved p-value for $0,002 < 0,05$. Conclusion: there was an influence of moringa brownies towards the increase of hemoglobin level at pregnant mothers.

Keywords: moringa brownies, pregnant mothers, and hemoglobin level

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Introduction

Pregnancy is something that is very coveted by all couples, but sometimes pregnancy is accompanied by various complications that can harm the mother and the fetus. One of the most common problems encountered in pregnancy and is a common problem in health is anemia. Anemia in pregnancy is a national problem, because it reflects the value of the socio-

economic welfare of the community and has a very large influence on the quality of human resources (Safitri, Husna, & Sakdiah, 2021). Anemia is one of the public health problems in Indonesia that can be experienced by all age groups from toddlers to the elderly. 2018 basic health research shows that the prevalence of anemia in pregnant women in Indonesia is 48.9% (Kemenkes RI, 2018). Pregnant women are

one of the groups prone to malnutrition, because there is an increase in nutritional needs to meet the needs of the mother and fetus. The wrong diet in pregnant women has an impact on the occurrence of nutritional disorders, including anemia, less weight gain in pregnant women and impaired fetal growth. (Susiloningtyas, 2012) Iron deficiency anemia in pregnant women can cause low birth weight, premature birth, perinatal and neonatal death (Wesström, 2020). In addition, anemia can cause significantly higher maternal morbidity and mortality and perinatal mortality. Pregnant women who suffer from severe anemia can increase the risk of maternal and infant morbidity and mortality, the possibility of giving birth to LBW and premature babies is also greater (Kurniawati, 2019)

Iron deficiency anemia is one of the manifestations of anemia in mothers, children and nutritional problems (Usastiawa, ty Cik Ayu Saadiah Isnainy, & Rosalia, 2019). Anemia is a common blood disorder that occurs when the level of red blood cells (erythrocytes) in the body becomes too low. Anemia is a condition with hemoglobin levels below 11 g/dl in

pregnant women in the first and third trimesters or levels <10.5 g/dl in the second trimester. Pregnant women are said to have anemia. if the concentration of hemoglobin (Hb) < 11.0 g/dl. Anemia in pregnancy can be caused by iron deficiency and is a type of anemia whose treatment is relatively easy and even cheap. The contribution of anemia in pregnancy to maternal mortality in Indonesia is estimated at 10% to 12%. This means that 10-12% of maternal deaths in Indonesia can actually be prevented if the incidence of anemia in pregnant women can be reduced to a minimum (Safitri et al., 2021). Factors that can cause iron deficiency anemia include lack of iron intake which is influenced by people's consumption patterns, increased body needs due to infection, chronic disease, pregnancy, menstruation and socio-economic factors. Iron deficiency anemia can cause impaired immune response that is susceptible to infection, gastrointestinal disorders, impaired physical work ability, cognitive and behavioral disorders. In addition to developmental disorders, iron deficiency can also cause neurological disorders

(Usastiawa, ty Cik Ayu Saadiah Isnainy, & Rosalia, 2019).

Indonesia is a developing country with various types of health problems, including anemia in pregnant women. Based on Riskesdas data in 2018, the prevalence of anemia in pregnant women in Indonesia was 48.9%. Based on data from the Provincial Health Office in 2017, the Maternal Mortality Rate was 205.1 per 100,000 live births. Data from the 2017 Provincial Health Office of anemia in pregnant women as many as 899 people, with the highest number being in Boalemo Regency as many as 507 people, Gorontalo City 161 people, Gorontalo Regency 151 people, North Gorontalo Regency 74 people, Bone Bolango Regency 6 people. This figure shows that anemia in pregnant women is approaching a public health problem. Data from the Gorontalo City Health Office 2018 the number of pregnant women with the highest anemia was at the Dungigi Health Center as many as 64 people. Based on an initial survey conducted by researchers by interviewing 15 pregnant women in the city of Gorontalo, some pregnant women believe that they are only allowed to eat with

vegetables and do not eat side dishes, especially meat and eggs. In addition, the food menu was found to be less varied. This will result in a lack of consumption of iron derived from animal iron so that it will lead to iron deficiency anemia in pregnant women. The government's efforts in suppressing the incidence of anemia are currently still focused on the fulfillment of Fe tablets consumed during pregnancy. Chemical drugs have side effects that make consumers uncomfortable, high drug resistance, and the possibility of accumulating in the body. Giving iron supplements, with a daily dose of 1 tablet containing 60 mg elemental iron and 0.25 g folic acid for at least 90 days during pregnancy. Compliance in taking iron supplements is something that must be considered. Optimizing the handling of anemia in pregnant women can be done through diversification of the development of local food formulas by considering aspects of nutrition, health benefits, acceptability, endurance and superiority of local food resources. One of the efforts that can be done is through the development of food products into supplements. Foods that have good nutritional content are Moringa

leaves (*Moringa Oleifera*). (Irwan, Salim, & Adam, 2020)

One way to overcome anemia in pregnant women is to increase the consumption of foods that contain high iron, one of which is *Moringa* leaves (*Moringa Oleifera*). The high content of iron (Fe) in *Moringa* leaves is equivalent to 25 times higher than spinach. *Moringa* leaves can be used as an alternative to overcome anemia in pregnant women, *Moringa* leaves contain iron 28.29 mg in 100 grams (Mutia Rahmawati, 2017)

Based on the results of research conducted by Yulianti (2016) that consumption of *Moringa* leaf extract in adolescent girls can increase hemoglobin levels (Yulianti, Hadju, & Alasiry, 2016).

Based on the results of research by Aninda et al (2019) that *Moringa* leaves can be made into powder to facilitate its use as a functional food ingredient. Not only that, *Moringa* leaves that are dried into powder have more nutritional content than when this plant is in the form of raw leaves. Trees for Life, which is an organization in America reports that per gram of dried *Moringa* leaves (powder) contains 10 times more vitamin A than carrots, 17 times more

calcium than milk, 25 times more iron than spinach, 9 times more lots of protein from yogurt, and 15 times more potassium than bananas.

Based on the description of the problem above, researchers are interested in making an update in previous research, namely making brownies with the substitution of *Moringa* leaf flour (*moringa oleifera*) as an effort to overcome anemia in pregnant women.

Method

Method This type of research is a type of quantitative research with the Pre Experiment method with a research design of one group pretest posttest design (Sugiono).

The variables used in this study are the independent variable, namely *Moringa* brownies and the dependent variable, namely hemoglobin levels.

The sample in this study was 30 pregnant women with Hb levels below (Hb <11 g/dl) based on sampling using a non-random sampling technique in the form of purposive sampling. Determination of sample size using inclusion and exclusion criteria.

a. Inclusion Criteria

The sample in this study is the sample encountered during research that meets the following inclusion criteria:

- 1) Pregnant women with a gestational age of 13-28 weeks and 29-40 weeks
- 2) Hemoglobin level <11 g/dl
- 3) Willing to be a respondent.

b. Exclusion Criteria

The criteria for research subjects are not eligible to be used as samples because they do not meet the research sample requirements, namely:

- 1) Mothers with pregnancy complications.
- 2) Currently in the process of another therapy.

The research location was carried out at the Duingi Health Center, Gorontalo City, this research was carried out on June 09 - June 23, 2020. he analysis used to determine the relationship between the independent variable, namely Moringa brownies, and the dependent variable, namely Hb levels using the Mc Nemar test with tools using the Statistical Data Processing Software program.

Results and Discussion

The analysis used in this research is univariate and bivariate analysis.

Univariate analysis is to determine the characteristics of each variable studied while bivariate analysis is an analysis used to assess the relationship between two variables.

a. Univariate Analysis

Table 1. Hemoglobin levels before consuming Moringa brownies

Pre	Total	%
Intervensi		
≥11 gr/dl	0	0
≤11 gr/dl	30	100,0
Total	30	100,0

Based on the results of the study in Table 1. it shows that before giving Moringa brownies the respondents had Hb levels not 11 g/dl as much as 100.0%.

According to Manuaba (2017), pregnant anemia is called "potential danger to mother and child" anemia (potentially endangering mother and child). Anemia in pregnant women is a condition in which red blood cell levels decrease so that it can affect the oxygen carrying capacity of the mother and fetus to be reduced. (Manuaba, 2017)

An indication of anemia in pregnancy is if the hemoglobin concentration is less than 10.5 to 11.0 g/dl. The low capacity of the blood to carry oxygen triggers the body's compensation by spurring the heart to increase cardiac output. A heart that is constantly being pushed hard can lead to failure. heart and other complications such as preeclampsia (Roosleyn, 2016)

According to Purwaningtyas et al (2017) that anemia that often occurs in pregnant women is anemia due to iron deficiency (Fe) or called iron nutritional anemia (AGB). Approximately 95% of cases of anemia during pregnancy are due to iron deficiency (Anggraini & Rahayu, 2017)

According to the results of research conducted by Purnamasari et al (2020) anemia in pregnancy is influenced by education, knowledge and information about anemia (T, 2020), The results of research conducted by Syalfina et al (2019) that anemia in pregnant women is influenced by factors of work, income and husband's support (Syalfina, A. D., Irawati, D., & Priyanti, 2019)

Based on the description above, anemia in pregnancy is still a public health problem that really needs special

attention in creating the maximum degree of women's health, because women's health is the main parameter of public health status because women are the ones who create new lives and sustain the lives of all family members.

Table 2. Hemoglobin levels after consuming Moringa brownies

Post Intervensi	Total	%
Meningkat	20	66,7
Tidak Meningkat	10	33,3
Total	30	100,0

Based on the results of the study in Table 2. It shows that there is an increase in hemoglobin levels after consuming Moringa leaf brownies as much as 66.7%.

Based on the results of Fitriyaa's research (2020) stated that there was an effect of Moringa leaf flour supplementation on increasing hemoglobin levels in adolescent girls. Suggestion (Fitriyaa, 2020)

The results of research conducted by (Atika, 2021) said that the results of this study stated that the analysis of the effect of Moringa leaves on hemoglobin levels with the P value of the Paired T-Test was 0.000 with an

average difference of HB levels of 0.6054 gr%, the results of the comparison test were obtained. hemoglobin levels before and after being given Moringa leaves using paired t-test showed a significance value (p) of 0.000. Thus, the results showed that there was a significant effect of giving Moringa leaves on hemoglobin levels of pregnant women. (Atika, 2021)

According to Hamzah et al (2019), one of the foodstuffs that contain high iron is the Moringa plant. The leaves are often consumed as a vegetable. In addition to food, Moringa leaves contain phytosterols which can increase the production of breast milk (Air Susu Ibu) for women who are breastfeeding and overcome the problem of anemia in children and pregnant women. Keor leaf extract contains Fe 5.49 mg/100 g, sitosterol 1.15%/100 g, and stigmasterol 1.52%/100 g (Hamzah & Yusuf, 2019).

In this study there were still 10 people (33.3%) who did not experience an increase in

Hb levels. The researcher assumed that the Hb level did not increase due to the respondent's age >35 years and the third trimester of pregnancy. This is in line with Ariyani's (2016) theory, that pregnant women at a risky age are prone to anemia. This is because the body's immune system begins to decline and is easily affected berbagai infeksi seperti bacterial vaginosis, vaginal yeast infections, and group B streptococcal (GBS) infections during pregnancy. This is in line with the research of Oktaviani, et al (2016), which stated that there was a significant relationship between age and Hb levels in pregnant women.

b. Analisis Bivariate

The analysis was carried out to see the relationship between the independent variable and the dependent variable. The analysis used in this study is the Mc Nemar test analysis.

Pretest	Posttest				Jumlah %		Sig 2-tailed)
	Meningkat %	Tidak Meningkat	%				
≥11 gr/dl	0	0,0	0	0,0	0	0,0	0,002
≤11 gr/dl	20	6,7	10	33,3	30	100,0	
Total	20	56,7	10	33,3	30	100,0	

Based on the results of the study in Table 3. shows that after giving Moringa brownies, the respondent's Hb level increased by 66.7% with an average Hb level before and after which was 10 g/dL and 10.9 g/dL with an average difference of increase, namely 1.31.

The results of statistical tests with Mc Nemar obtained p value = 0.002 ($p < 0.05$)

Thus H_0 is rejected and H_a is accepted, meaning that there is an effect of Moringa brownies on hemoglobin levels in mothers pregnant in the working area of Duingi Health Center Gorontalo City.

Based on the results of research by Yulianti et al (2016) it was found that Moringa leaves contain very high amounts of vitamin A, vitamin C, vitamin B, calcium, potassium, iron, and protein, which are easily digested and assimilated by the human body. Moringa leaves contain a large amount of nutrients, various macro and micro nutrients and active ingredients that act as antioxidants. Contains important nutrients such as iron (fe) 28.2 mg, calcium (ca) 2003.0 mg and vitamin A 16.3 mg rich in -carotene, protein, vitamins A, C, D, E, K, and B (thiamine, riboflavin, niacin, pantothenic acid, biotin, vitamin B6, vitamin B12, and folate). It also contains a number of important nutrients to help absorb iron in the

body, such as vitamin C, which is 220 mg/100 grams of fresh leaf material (Yulianti et al., 2016).

According to Usastiawa (2019) that the vitamin C content in Moringa leaf extract helps iron absorption. Moringa can be used as the main ingredient in hundreds of drugs, both for prevention and treatment. (Usastiawa, ty Cik Ayu Saadiah Isnainy, Rosalia, et al., 2019)

The benefits and efficacy of the Moringa plant (*Moringa oleifera*) are found in all parts of the plant, including leaves, stems, roots and seeds. The high nutritional content makes Moringa have functional properties for health and overcome nutritional deficiencies (Irwan et al., 2020)

In this study, researchers used Moringa leaf flour substitution as the basic ingredient for making Moringa leaf brownies. Brownies are one of the most popular types of chocolate cake. Brownies have a sweet taste, good aroma, and the texture is not too fluffy. Currently, various innovations have been developed in the manufacture of brownies with the raw materials of mokaf flour, jackfruit seeds, and a mixture of rice flour, starch, cornstarch. (Barqi, dkk, 2017).

Moringa brownies are given to pregnant women as much as two pieces per day each

weighing 50 grams, consumed in the morning and evening for 14 days. The average increase in hemoglobin levels in pregnant women who consume brownies is 1.31 g/dl, so it can help increase hemoglobin levels during pregnancy.

Conclusion

There was an increase in blood hemoglobin levels before and after giving Moringa Brownies to pregnant women. Giving Moringa Brownies given as much as 50 grams for 14 days can significantly increase blood hemoglobin levels in pregnant women.

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Analysis of Factors Related to The Implementation of Community Movements for Healthy Living

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Abstract

Health is the principal capital in improving human resources because physically and mentally healthy people can think and act well. The phenomenon that occurs in Magelang Regency is a change in harmful behavior that affects human health. Many people throw their trash on the side of the access road to the hamlets around Mertoyudan. The sewers look dirty and smelly. Children often litter, spit everywhere, don't wear masks, cough or have flu, and rarely do a health check-up to health workers. All of this illustrates the behavior of people who are not healthy. This community movement program for healthy living is essential to be implemented in Mertoyudan village because the village borders the city; the aim is to accelerate promotive and preventive efforts for healthy living. This type of research is quantitative and qualitative with correlational analysis—the approach used by Cross-Sectional in the Mertoyudan village community. The data used are primary and secondary data, data collection by observation, questionnaires, and in-depth interviews. Frequency distribution data processing, Bivariate with chi-square and multivariate with regression. Characteristics of age at most >45 years old (51.52%), secondary education (51%), status Majority married (81.8%) private occupation (40.9), for univariate knowledge very good (65%), very good attitude (56.7%), good motivation (55%), good supervision perception (55%), very good effective communication (53.3%) Germas is very good (66.7%) knowledge-germas bivariate ($p=0,000$, $\rho=0,101$), attitude-germas ($p=0,033$, $\rho=0,275$), motivational-germas ($p=0,001$, $\rho=0,432$), perception of supervision-germas ($p=0,002$, $\rho=0,398$), Communication -germas ($p = 0.052$, $\rho = 0.150$), multivariate on the value of F hating obtained a value of 1706.539 with a p-value of 0.000 so that it can be interpreted that all variables have a relationship. The highest univariate result is knowledge, with a result of 65%. For the costab value or the value of the Sparman statistical test, s the value of the highest relationship between motivation and germas is the p-value = 0.001, and the rho value is 0.432, which means that the motivation variable has a moderate relationship strength, but multivariate all variables have a relationship.

Keywords: knowledge, motivation, attitude, perception, germas

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Introduction

The Healthy Living Community Movement (GERMAS) is a national movement initiated by the President of the Republic of Indonesia to optimize health, especially in preventive and promotive efforts. However, it does not abandon or exclude curative and rehabilitative efforts. The name of the Healthy Living Community Movement, this forum was launched on November 15, 2016, in Tamanan village, Banguntapan, Bantul, Yogyakarta. (Indonesia, 2017)

In 2018 problems related to disease, there was an increase in non-communicable diseases evaluation from 2014-2017, and the causes were: a). The population lacks physical activity by 26.1%, b). Population > 10 years old have been drinking alcohol by 4.6%, c). Population > 15 years old male and female ten years smoking by 36.3%, d). Population > 10 years consuming less fruit and vegetables by 93.5%. (Widgery, 1988)

A government program launched by the President of the Republic of Indonesia, namely an action to improve the environment and make changes to healthy behavior, needs to be carried out in a systematic, planned, synergized manner by all components of the nation. realizing a better level of public health. (Udiana & Hikmandari, 2019)

Previous research conducted by Dian entitled Movement for healthy living in the perspective of policy implementation found that the GERMAS policy has been implemented and is still running until now, but support from all cross-sectoral and community aspects is still needed. (Cahyani et al., 2020)

Tuti's research with the title Evaluation of the implementation of the Healthy Living Community Movement (GERMAS) program in Bengkulu City found that 47% of the GERMAS program was implemented very well, 47% very well, 39% quite good. 0.5% was not good at implementing the GERMAS program. Increasing the implementation of the GERMAS program should be supported by government programs, especially in providing affordable health checks. (Utama et al., 2020)

Research conducted by Muhammad with the title The Effectiveness of the Makassar City Health Office GERMAS Program in Improving the Health Status of Hajj Pilgrims in 2018 found that there was a change in the health status of pilgrims after the implementation of the Healthy Living Community Movement (GERMAS), namely a significant change in blood pressure ($p = 0.001$) and blood sugar levels ($p = 0.000$), there was no significant change in the status of obesity ($p =$

0.310) and uric acid ($p = 0.145$). (Ilham et al., 2019)

Research conducted by Lina by finding, result of this research show that germas related activities have been partially caried out in the university Meanwhile, results from the health college and the health polytechnic indicate that germas related activities are better implemented. They are better integrated with the germas itself as a whole. (Handayani et al., 2019)

Based on observations for two years, in Mertoyudan Village, the people rarely do physical activity, eat fast food more often, rarely cook vegetables and fruit, and never check their health. The community does not maintain environmental cleanliness, so they often throw garbage across places.

Based on the background above, it can be formulated in this research, namely what factors related to implementing the healthy living community movement?

Method

This research is an analytic observational study with quantitative data types and cross sectional design where data collection is between independent variables (knowledge, attitudes, motivation, perception of supervision, effective

communication and the dependent variable about the movement of healthy living people are observed and taken simultaneously.

The population in this study were residents who lived in Mertoyudan village + 3 years, the research sample was 60 respondents, this data collection was carried out with 2 health cadres using a closed questionnaire. The research data were univariate analysis with frequency distribution and hypothesis testing with Sperman's rho and multivariate with regression

The data collection uses closed questionnaires to find out about respondent data, namely respondent demographic data. The questionnaire consists of statements about the respondent's initials, age, gender, status, occupation, and education: knowledge, motivation, attitudes, perceptions, communication, and community movements of Healthy living people. Ethical approval was obtained from the Health Research Ethics Committee, Universitas Respati Yogyakarta. Written informed consent was obtained from the respondent when the respondent filled out the questionnaire.

The research location is Mertoyudan Village, Magelang Regency, Central Java Province

Result and Discussion

The research results on the characteristics of respondents for the age of the most aged over 45 years (51.52%), the youngest age who became the respondent was 11 years, and the oldest was 70 years old.(Gibson Ivancevich Donnelly, 2010)Based on education majority of respondents have secondary education (51%), The majority of marital status are married (81.8%), and the most occupations are private

employees (40.9%).This research is supported by the results of research on gender, age, status wedding, domestic support results showed that only marital status significantly affect both work to family conflict and family to work conflict. However, marital status did not significantly influence turnover intention. Age significantly, but in opposite direction, influenced turnover intention.(Kismono et al., 2014)

Table 1. Knowledge Frequency Distribution

Knowledge	f	%
Excellent	39	65
Good	19	31,7
Fair	0	0
Poor	2	3,3
Total	60	100

Univariate analysis of 2019 primary data

The results of the univariate analysis based on the knowledge variable are the majority knowledge is good, namely very good 65% and good 31.7% However, there are still respondents whose knowledge is still lacking. This research is also not in line with. he results showed the average value of knowledge before it was given health education (pre-test) was 4.3 and after health education (post-test) it was 7.6. The average value of motivation before health education (pre test) 23.55 and after the health

education became 29.05. There is a significant influence on the knowledge and motivation of housewives ladder on the Healthy Living Community Movement (Germas) in an effort to prevent hypertension with a p-value of 0.00.(Nurfitriani & Anggraini, 2019), his research is also in accordance with the theory that knowledge is everything that is in the head, and we know and understand something based on experience.(Lina Miftahul Jannah & Bambang Prasetyo, 2016).

Table 2. Frequency distribution of attitude

		f	n
Valid	Excellent	34	56,7
	Good	24	40
	Fair	2	3,3
Total		60	100

Based on Table 2 about the attitude variable, most the of the results are good. However there are still some who have poor attitudes, This research is in line with Sri research on attitudes obtained knowledge level of osteoporosis in elderly women is good (87.5%) knowledge level is less (12.5%), attitude about osteoporosis is good (86.5%) attitude is less (13.5%), preventive measures are good (88.5%) preventive measures are lacking (11,5%). The results of the bivariate analysis showed that there was a significant relationship between the level of knowledge and

preventive measures for elderly women in Jati Village ($p = 0.004$) and there is a significant relationship between attitudes and preventive measures for elderly women in Jati Village ($p = 0.001$). (Rajaratenam et al., 2014)

His research is in accordance with Muclas' theory which states that attitude is an evaluation of an individual's feelings and tendencies towards something. Attitude places the thought of liking or disliking something (Muchlas, 2012).

Table 3. Distribution of Motivation frequency

		f	n
Valid	Excellent	24	40
	Good	33	55
	fair	3	5
Total		60	100

The frequency distribution results can be concluded that the majority are good with very good details of 40% and good 55%. By looking at the results of this study, the Mertoyudan Village community has a good attitude towards implementing the healthy living community movement. This study also follows the theory. (P.

Siagian, 2010) This research is also supported by previous research with the results showing that the relationship between motivation and the behavior of fishermen is in the good category, the higher the work motivation of fishermen, the better the behavior of fishermen. (Pakpahan et al., 2006)

Table 4. Frequency distribution Supervision perception

		f	n
Valid	Excellent	4	6,7
	Good	33	55
	Fair	20	33,3
	poor	3	5
Total		60	100

The results of data processing from the perception of supervision showed that most of the results were good at 55%. However there were still respondents who had a less than 5% integrated within the stimulus or stimulus obtained. This research is in line with the theory askowit and organel in the book Bimo that the perception of a process is integrated within oneself to the stimulus or stimulus that is obtained.(Walgito, 2010)

The results of this study are also supported by the results of research on pengaruh persepsi pegawai terhadap gernas dengan hasil adanya pengaruh yang signifikan antara persepsi pegawai BNN akan gernas terhadap perilaku hisup sehat.(Indradewi et al., 2019) These results are supervised in accordance with the theory amely the supervision of an activity in conducting direct and periodic observations by superiors on the work carried out by subordinates or subordinates.(Azrul, 2010)

Table 5. Effective communication frequency distribution

		f	n
Valid	Excellent	32	53,3
	Good	21	35
	Fair	7	11,7
	Total	60	100

The frequency distribution results on effective communication are the results of research on effective communication that has been going well by 53.3%. However, there is still enough of 11.7% because everyone cannot necessarily do and receive effective communication in this gernas.. The results of

this study are also in line with research conducted by Hugo with the results of the use of effective communication having a significant effect on increasing learning outcomes by 95%. (Suprpto, 2018) The results of this study are in accordance with the theory which reads that effective communication is a communication

that is able to produce changes in one's attitude.(Dr. H. M. Husni Ritonga, 2019)

Table 6. Germas frequency distribution

		f	n
Valid	Excellent	40	66,7
	Good	20	33,3
Total		60	100

By looking at the research results as shown in this table, it can be categorized that Germas for the community is good but has not been implemented in their respective environments but only in their respective homes. The results of this study are in line with Zainul's research entitled Initiation of the Healthy Community Movement with results of physical activity and intake. In general, the fruit is good, and the implementation of germas at the Poltekkes is implemented in the form of fruit snacks and inspections, but stretching activities have not been carried out.(Zainul et al., 2019) This research is also based on the theory that the degree of public health is influenced by 4 factors, namely behavior, environment, health services and the environment which hold or play a role in 75% of the condition of public

health status.(Kemenkes RI, 2017) Penelitian ini didukung penelitian Angga Irawan dkk.2020.dengan hasil results obtained as follows: knowledge level as much as 53%, physical activity 70%, eating fruit and vegetable foods 75%, alcohol consumption 56%, health checks 15%, environmental hygiene 45%, using a latrine 23% , use of media as much as 80% and social activities as much as 80%. The results of this study hope that the people of Desa Pemantanan will implement a community movement for healthy living which includes 4 indicators, namely increasing knowledge, not drinking alcohol, environmental hygiene, and not using latrines, so that they can avoid health problems from non -communicable diseases.(Irawan et al., 2020)

Table 7. The results of statistical analysis of the relationship between knowledge, attitudes, motivation, perceptions of supervision, effective communication with the implementation of Germas in Mertoyudan Village in 2019

Variable	Germas		<i>p-value</i>	Rho
	Excellent	Good		
Knowledge				
Excellent	27 (69,2%)	12 (30,8%)	0,000*	0,101
Good	12 (63,2%)	7 (36,4%)		
Fair	1 (50%)	1 (50%)		
Attitude				
Excellent	27 (79,4%)	7 (20,6%)	0,033*	0,275
Good	11 (45,8%)	13 (54,2%)		
Fair	2 (100%)	0		
Motivation				
Excellent	22 (91,7%)	2 (8,3%)	0,001*	0,432
Good	17 (51,5%)	16 (48,5%)		
fair	1(33,3%)	2(66,7%)		
Supervision perception				
Excellent	3 (75 %)	1 (25 %)	0,002*	0,398
Good	28 (51,5%)	5 (48,5 %)		
Fair	7 (35%)	13 (65%)		
Poor	2 (66,7%)	1 (3,33%)		
Effective				
Communication	24 (75%)	8 (25%)	0,052	0,150
Excellent	11(52,4%)	10(47,6%)		
Good	5(71,4%)	2(28,6%)		
Fair				

Ket=*(signifikan)

Table 7 shows that the relationship between knowledge and germas with the results of the relationship of knowledge is very good and germans is very good at 69.25%, which shows that the research results on the relationship are very good because it exceeds 50%, but there are still those whose knowledge results are lacking. However, the germs are very good by 50%, this result is also supported by the spearman's rho statistical test with a p

value of 0.000, which means that H_0 is rejected, H_a is accepted. It means that there is a relationship between knowledge and the practice of germas, in addition, it is also supported by the results of the rho coefficient correlation with a value of 0.101 .It means that there is a relationship between very weak strength. This research is also in line with research conducted by Moh Arip with the results of this study found that there was a

significant difference between the intervention and control group. In terms of knowledge value ($p = 0.005$), attitude ($p = 0.000$) and skill ($p = 0.000$). In short, the intervention of Rudat dance video "KeRASA PHBS" is effective as a strategy to improve knowledge, attitude, and skill toward PHBS. (Arip & Emilyani, 2018)

The relationship between attitudes and germas shows that most respondents already have a very good attitude and the desire to carry out germas is very good at 79.4%. However, there is still a good attitude and a very good germas. Statistical tests with spearman's rho also support the results of this cross-tabulation with the result of p-value 0.033. It means it is smaller than the value of $\alpha = 0.05$, which means $p < 0.005$, which means that H_0 is rejected, which means attitude and attitude have a significant relationship, while for the rho value of 0.275, the relationship between the two variables is of moderate strength, which can be associated. This research is supported by previous research conducted by Megasari on the relationship between public health attitudes and the incidence of diarrhea. The results of the significant value of p-value 0.129 with $p > 0.05$. It means there is no relationship between attitude and incidence of diarrhea;

the Odds Ratio value is 2,922, which means that the community has a positive attitude less risk of diarrheal disease by 2,922 times than people who behave well. (Megasari et al., 2015) This research also follows the theory, which reads that attitude is a reaction or response of a person who is still close to a stimulus to an object or stimulus; attitude also tends to express signs of liking or disliking an object. (Notoatmodjo, 2012)

This research is in line with research by Ronasari Mahaji Putri with the results of The results showed that as many as 43.6% of housewives were well informed, 76.9% of housewives had good attitudes, and as many as 69.2% of mothers had good PHBS. Statistical tests show there is no relationship between knowledge with PHBS (p value 0.792), and there is a relationship between attitudes and PHBS of housewives (p -value 0.007) (Putri et al., 2019)

The results of the analysis of the relationship between motivation and the implementation of german with the results that respondents who have very good motivation and germas are 91.7%, but there is still sufficient motivation and good germas are 66.7%. These results are supported by

statistical tests with spearman's rho with p value value of 0.001 where p value < 0.05 which means H_0 is rejected. It means a significant relationship between the motivational variable and germas. If you look at the rho value of 0.432 which means moderate strength, there are still factors that influence it. This research is also supported by the results of research conducted by Thoni with The result shows that transformational leadership has no significant influence on employee performance but has significant influence toward job satisfaction. Nevertheless, work motivation has a significant influence on both employee performance and job satisfaction. Moreover, job satisfaction has a significant influence on employee performance. Job satisfaction is also fully mediated the influence of transformational leadership toward employee performance and partially mediated the influence of work motivation toward employee performance. The indicator that causes the non-significant influence of the transformational leadership toward employee performance is an individualized consideration, which is not running optimally in Hotel Kartika Graha. (Prabowo, et al., 2018)

The relationship between the perception of supervision and germas in the cross tabulation

showed that the perception of good supervision and very good supervision was 51.5%, but still there were respondents who had a bad perception and 66.7% good practice. This result was supported by statistical tests with spearman's rho with p value = 0.002 which means $p < 0.05$ which means H_0 is rejected and H_a is accepted which means that there is a relationship between the perception of supervision and germany variables, besides that, it is also supported by the results of the rho value of 0.398 which means the relationship between the perception of supervision with germs and strength moderate. the results of interviews with leaders or stakeholders have never supervised the hamlet when there were activities. This study is also in line with Isnaini R's research with the results of Based on the results of the it is concluded that the effectiveness of the program in preparing demographic bonuses through the collaborative governance perspective in Sidoarjo in terms of face to face dialogue of the Germas program, the implementation of meetings, campaigns, and training is not scheduled and irregular. In terms of sharing understanding in the delivery of regulations related to Germas, this has been implemented well through campaigns, print

media and broadcast on the radio. For intermediate outcome from the implementation of the Germas program in Sidoarjo Regency is still in the stage of socialisation, thus the results of the main objectives expected in the Germas program to prepare a demographic bonus have not yet been seen.(Isnaini et al., 2020)

The relationship between the influential communication variables and germas showed that effective communication was very good and germas was very good at 75%. However, there was still quite good effective communication, and germas was very good at 71.4%. Spearman's rho statistical test also supported this result. The results of the p-value of 0.052, which means $p > 0.05$, which means that H_0 is accepted, which means that there is no relationship between the influential communication variable and germas. At the same time, if it is seen from the rho value of 0.150, there is a relationship with weak strength. Thus, communication is not the only thing that affects the implementation of germas, but there are still many factors that influence it. This research is also in line with the results of research conducted KnE Life Sciences with result the result of the study showed that

effective communication can significantly impact the improvement of excellent service quality, thereby increasing patient satisfaction with the health care they receive.(Ratna Sari et al., 2021) The presented article aims at identifying the level of the implementation of open communication attributes in Slovak organisations, and at evaluating the reasons and consequences resulting from the findings to managerial work. The analysis of the level of openness of communication processes in year 2018 on 214 Slovak organisations was performed by an electronic questionnaire survey. The data collected from the questionnaire survey were subsequently statistically processed, while in addition to descriptive statistics, a method of correlation analysis, particularly statistical Pearson parametric correlation test (r), was used. The results proves the existence of a statistically significant relation between the frequency of attending communication trainings by the managers and the level of the support of employees in bottom-up communication and also the level of influencing informal communication in organisations.(Stacho et al., 2019)

Table 8. The results of statistical analysis of the relationship of all variables together in the implementation of Germas in Mertoyudan Village in 2019

		Multivariate Tests ^a				
Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	,995	1706,539 ^b	5,000	42,000	,000
	Wilks' Lambda	,005	1706,539 ^b	5,000	42,000	,000
	Hotelling's Trace	203,159	1706,539 ^b	5,000	42,000	,000
	Roy's Largest Root	203,159	1706,539 ^b	5,000	42,000	,000
Germas	Pillai's Trace	1,578	1,631	65,000	230,000	,000
	Wilks' Lambda	,100	1,958	65,000	202,428	,000
	Hotelling's Trace	3,777	2,347	65,000	202,000	,000
	Roy's Largest Root	2,356	8,336 ^c	13,000	46,000	,000

a. Design: Intercept + Germas

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Based on multivariate statistical tests, it shows that the F test value for the Hotelling tracepoint is 1706,539 and a significance value of 0.000 which can be interpreted, or it means that there is a strong relationship between the variables of knowledge, attitude, motivation, perception of supervision and effective communication. in line with previous research on the analysis of factors related to the performance of nurses in implementing nursing care in hospitals with the results of the award aspect being the most dominant variable affecting performance with an Odds ratio value of 16.513 and statistically significant ($p = 0.004$), which means nurse performance closely related to the motivation, supervision, -0.782)

work appreciation of nurses, so the aspects that affect motivation, supervision and work rewards need to be appropriately managed to get good nurse performance results.(Mandagi et al., 2015)This research is in line with the results of Reni Sumanti's research, with Results of Findings show that there were statistically significant correlations between knowledge of marriageable age, education and child marriage. There was no significant relationship between matchmaking and child marriage. Respondents with low knowledge were 0.5 times more likely to have child marriage compared with those with high knowledge ($p = 0.001$, 95% CI = 0.320.(Sumanti et al., 2018)

Conclusion

Characteristics for the 35-44 years at most 37.4%, for education for secondary education by 51.5%, the most private occupations at 40.9%, family status is married by 81.8%.

The frequency distribution of knowledge results is primarily good at 65%, very good attitudes are 56.7%, good motivation is 55%, perceptions of supervision are good at 55%, effective communication is very good at 53.3%, germas implementation is very good at 66.7 %.

The results of the bivariate test of knowledge –germas ($p = 0.000$, $\rho = 0.101$), attitude-germas ($p = 0.033$, $\rho = 0.275$), motivational germs ($p = 0.001$, $\rho = 0.432$), perceptions of Germas supervision ($p = 0.002$, $\rho = 0.398$), effective-germas communication ($p=0,052, \rho=0,150$)

The results of the multivariate statistical test showed that the F test value for Hotelling trace points was 1706,539 and a significance value of 0.000 which means that all variables are related.

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Identification of Adolescent Reproductive Health Information Needs Using The Perspective of Adolescents With A Pregnancy Experience

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Abstract

Adolescence is a transitional period from childhood to adulthood. During this period, both physical and psychological conditions change. Adolescent pregnancy causes a higher risk for negative outcomes in terms of both physical and psychosocial aspects to the pregnant girl, baby, and husband. The research aimed to identify information needs for adolescent reproductive health using the perspective of adolescent with a pregnancy experience. The research used a qualitative design. The results of the study were divided into three themes, namely knowledge of adolescent reproductive health, access to reproductive health information, and reproductive health service providers. All the informants were under 20 years of age. In terms of education, most of the informants did not graduate from high school; even some of them graduated only from elementary school. In terms of knowledge about adolescent reproductive health, it was shown that adolescents did not have a comprehensive understanding of reproductive health, including reproductive organs and the process of pregnancy. Most of the informants thought that reproductive health was the health condition related to only the genital organs. They felt embarrassed to ask questions to their parents and they wanted to try something new. In terms of access to adolescent reproductive health services, access to information about reproductive health was still limited and there was a lack of information about how to access information about reproductive health. In addition, all of the informants said they did not know other programs due to lack of publications. Meanwhile, in terms of information needs for adolescent reproductive health, all the informants mentioned the need for information about adolescent reproductive health. These informants said that the presence of adolescent reproductive health information could prevent adolescent pregnancy. In terms of service recommendation, it can be in the form of continuous socialization at schools by teachers and health workers as well as consulting services at schools or at health centers.

Keywords: Information Needs; Reproductive Health; Adolescent Pregnancy

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Introduction

Data from the World Health Organization (WHO) shows that there are 16 million adolescent pregnancies annually and 95% of these adolescent pregnancies occur in developing countries (WHO, 2014). The

government has taken various measures to reduce the rate of adolescent pregnancy, one of which is the Care for Adolescent Health Services (PKPR) at Public Health Center (Puskesmas). A similar program was also developed by BKKBN in 2003, namely

Adolescent Reproductive Health and Information Center (PIK R) by involving schools and the community. This program aims to increase adolescent knowledge and skills about reproductive health and healthy living behavior as well as to provide quality health services to adolescents (BKKBN, 2007). Health centers which offer a PKPR program provide services both inside and outside the health centers, targeted at school-based or community-based adolescent groups. This is to ensure that the services provided can reach all adolescent groups (aged 10-19 years).

Gunungkidul Regency is one of the regencies in the Special Region of Yogyakarta with a high adolescent pregnancy rate (Women Riset Centre, 2014). In 2016, there were 310 adolescent pregnancies; 220 of which were premarital pregnancies (Health Agency of Gunungkidul Regency, 2017). This can be seen from data from the Health Agency of Gunungkidul Regency, that in 2015, there were 405 cases of adolescent childbirth, 236 cases were unexpected events. In 2016, the cases decreased to 310 with 121 unwanted pregnancies.

A study by (Santelli et al., 2018) showed that schools did not really approve of reproductive education, the respondents were shy, and the materials were not delivered properly. Identification of the needs for adolescent reproductive health services is important. Research by (Yakubu & Salisu, 2018) showed that socio-cultural, economic, and environmental factors, such as lack of comprehensive reproductive education as well as health service factors such as inadequate and unskilled health workers and non-adolescent-friendly reproductive services affected adolescent pregnancies.

The results of some previous studies by (Anjarwati, 2019)(Mcdonald & Grove, 2001) showed that, in terms of the experiences of parents and adolescents related to knowledge, information, and perceptions regarding adolescent reproductive health services, the majority stated that they did not understand adolescent reproductive health services; even most of them said they never heard of adolescent reproductive health services. It is crucial for the government and some related agencies to initiate specific programs for dealing with ignorance about sexual and reproductive

issues as well as challenges and risks associated with adolescent pregnancy and parenting (Konadu Gyesaw & Ankomah, 2013).

Previous studies have shown that adolescent pregnancy has a higher risk factor for negative outcomes in terms of both physical and psychosocial aspects on the pregnant girl, her baby, and her husband. In terms of the physical aspect, adolescent pregnancy has a significant effect on the incidence of pregnancy and labor complications, for example, the incidence of maternal anemia, obstructed labor, miscarriage, cephalopelvic disproportion, preterm birth, intrauterine fetal demise, intrauterine growth restriction, low birth weight, and child stunting. In terms of the psychosocial aspect, adolescent pregnancy may cause both mental and financial unpreparedness to become a mother, social exclusion, dropping out of school, as well as negative stigma on the pregnant girl, her baby, and her family (Koniak-Griffin, D. and Turner-Pluta, 2001). To prevent unwanted pregnancies, it is crucial for adolescents to obtain adequate knowledge and access to

reproductive health services (Vongxay et al., 2020).

According to WHO (2014), there are various factors for the high rates of adolescent pregnancy in developing countries, such as lack of knowledge about adolescent reproductive health, the attitudes of not caring about reproductive health, unavailable access to adolescent reproductive health information and services including contraception, local culture where child marriage is common, pressure from boyfriend to have a sexual intercourse, pornography, rape, bad parenting, and unavailable adolescent reproductive health facilities. According to (Capanzana et al., 2015) various ways to improve adolescent health and to effectively prevent and treat unwanted pregnancies include the development of adolescent-friendly Health Centers, socialization of information and educational materials to increase reproductive health awareness among adolescent, and health workers. It is possible that adolescents need culture-adjusted knowledge about pregnancy. Based on these phenomena, the writer was interested in conducting a study

to identify adolescent reproductive health information needs using the perspective of adolescents with a pregnancy experience.

Method

This study used a qualitative approach to determine the distribution of data. This was an analytical descriptive study. This study used a cross sectional approach to study the dynamics of the correlation between the independent variables and the dependent variable by making approaches, observations, and data collection at one time (point-time approach) (Sugiyono, 2007).

The subjects in this study were adolescents who had a pregnancy experience. The sampling technique was

non-probability sampling using a purposive sampling technique. In practice, qualitative research does not use randomization in its sample selection, particularly when exploring sensitive issues including issues considered taboo. In addition, qualitative research does not focus on the number of samples because this type of study aims to make in-depth data exploration, instead of conducting statistical measurement. The subjects in this study were five adolescents who had an adolescent pregnancy experience.

Result and Discussion

Result

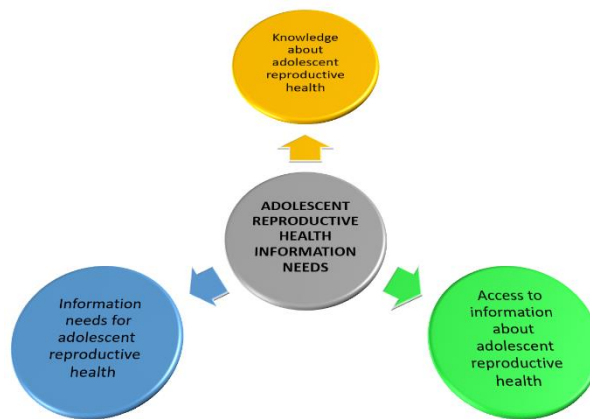
1. Participants' Profiles

Table of Participants' Profiles

Participant	Profiles
Participant 1	She was 17 years old. She had a 4-month-old child. She was not married and became a single parent because her boyfriend was not responsible for her pregnancy. Participant 1 said that, at the time of the interview, she had started working as a marketing staff in a leasing company, but her parents supported her in terms of her main financial needs, housing, and child care. Participant 1 dropped out in grade 2 so she did not graduate from high school because she did not like formal education.
Participant 2	Participant 2 was a 19-year-old teenager who had an 11-month-old child. She graduated from elementary school and became a housewife after marriage. During the interview, participant 2 admitted that she, her husband, and her child lived under the same roof with her mother.
Participant 3	Participant 3 was a teenager aged 17 years who had a child aged 6 months old. She said that she did not graduate from high school. She said that she lived with her husband and

Participant	Profiles
	child in a house near her parents-in-law's house. Participant 3 used to work at a furniture store but resigned after giving birth. Her husband worked in a motorcycle repair shop.
Participant 4	Participant 4 was a teenager aged 20 years old who had a 8-month-old child. She graduated from a vocational high school 1 year ago. She said that she worked at a clothing store and her husband worked as a night security guard. Participant 4, her child, and her husband lived in a rented house.
Participant 5	Participant 5 was an 18-year-old teenager who had a child aged 10 months old. She dropped out of high school when she was in grade 3 due to an unexpected event. She was an unemployed housewife and her husband worked as a shopkeeper. Participant 5 admitted that her husband had financially fulfilled the financial needs of her small family.

Research theme



The results of this study were based on the themes in the study:

1. Knowledge about adolescent reproductive health

Most of the informants thought that reproductive health was the health condition related to only the genital organs. This can be seen in the following statements:

"... What is it,... well, maybe related to female genital organs...."
(Participant 1).

"...No pain in the genital organs ..."
(Participant 3)

"...Reproductive health? What is it... To be healthy maybe, mam? I don't understand, mam." (Participant 5)

Most of the informants considered talking about reproductive health with their parents as taboo. They were afraid of talking about it with their

parents. This can be seen in the following statements:

"...It's embarrassing to talk about it with my parents... I'm not really close to my parents...(Participant 1)

"...I'm afraid to ask questions about it ... (Participant 2)

"My mom once said that after my first menstruation, it means I'm grown up so I have to take care of myself....but I don't ask any more questions....It's embarrassing, mam." (Participant 4)

All the informants said that they had their first sexual intercourse because they were persuaded and seduced by their boyfriends. This can be seen in the following statements:

".... At that time, he already asked for it (sexual intercourse) several times.... But I refused because I was afraid of being pregnant (pause) ... But after several times, I was willing because I was blown away by the romantic atmosphere ... (Participant 1)

"... We did it because the two of us were willing, no coercion. He

promised to marry me if I'm pregnant so I was willing to do it...

(Participant 2)

"It's okay, Baby. You won't be pregnant. We'll only do it once, ok?"

(Participant 3)

All the informants admitted that they did not expect to be pregnant. This can be seen in the following statements:

".... The first time I found out I was pregnant, I didn't expect to be pregnant ..." (Participant 1)

"...scared and confused (when knowing she was pregnant)..." (Participant 2)

"...I knew about it when I went to the Health Center, accompanied by my sister. I wasn't too sad because my sister also once had a premarital pregnancy.." (Participant 3)

All of the informants admitted that they knew that a missed period is one of the signs of pregnancy. This can be seen in the following statements:

"...a missed period ... (Participant 1)

"... a missed period, craving for something, at that time I wanted to eat persimmon so bad, while I used to not like it...(Participant 2)

"..ehmmm a missed period, mam.." (Participant 5)

2. Access to information about adolescent reproductive health

According to the informants, access to information about reproductive health was still limited. There was lack of information about how to access information about reproductive health. This can be seen in the following statements:

"... I didn't know where to look for it I was too embarrassed to ask to my parents or my friends. I wasn't close with my friends. Maybe because I had to study and work part-time. Maybe my school friends understood about it. But me, I didn't know anything, my parents didn't tell me either ... I have 11 siblings and I'm the oldest ... I don't have a smartphone. Our family is in a difficult financial situation so we have to be independent, including

working part-time after school...(Participant 1).

".. Never heard about it before, mam (shaking her head side to side)..I didn't know if my school had it.. The health center, I knew it by the time I checked my pregnancy, mam.. I never looked for it via Google either....." (Participant 3)

"..I didn't know if adolescent reproductive health existed, mam.. I never heard of such services, mam."(Participant 4)

3. Information needs for adolescent reproductive health

According to the informants, they used to think that they did not need information about adolescent reproductive health. This can be seen in the following statements:

" ... I thought I didn't need it, well I now understand the importance of knowing such thing ... (Participant 1).

"... I didn't know, mam.. I didn't know what is it for.. But now I know, mam, that it's important to take care of ourself... It has to be

socialized massively through pamphlet pinned in public places so teenagers could access the information” (Participant 3)

According to the informants, adolescent health information was highly needed to prevent adolescent pregnancy. This can be seen in the following statements:

“...It’s very important, so they won’t regret it like I did. Well, it’s my destiny, and I’ll learn from it ...” (Participant 2)

“..I wish I knew such information long ago, mam. I wouldn’t have been like this... I hope teenagers could visit the health center to access such information” (Participant 5)

“..I met a friendly midwife, mam.. Then I just realized that this information is important..” (Participant 4)

“..Well, I think it will be good to socialize it at schools, mam. I forgot, I think I had it, in the health center because I could directly meet the health worker..” (Participant 1)

Discussion

It is crucial to maintain reproductive health, especially for adolescents. This is because adolescence is the best time to build good hygiene habits which can become long-term assets. According to the World Health Organization (WHO), adolescents are people aged 12 to 24 years old. Adolescence is a transitional period from childhood to adulthood. This means that the process of introducing and knowing reproductive health has actually started during this period. In simple terms, reproduction is constructed by the word "re" which means to return and "production" which means to make or produce. During adolescence, humans experience many changes from childhood, in terms of both physical and psychological development.

Adolescent pregnancy may occur when adolescents obtain information about sex from foreign movies which show the sex habits of western adolescents, making them think that this habit is permissible. This is then exacerbated when parents play less or no roles in supervising their children. Parents do not know where and to what

extent their growing children get information about sex. Adolescents, in nature, have a high curiosity but they cannot wait to obtain information from the right sources, such as schools. This encourages them to find out by themselves through print and electronic media. Unless supervised and directed, they will imitate the information they obtain from these media, potentially causing negative effects (Konadu Gyesaw & Ankomah, 2013). In fact, unwanted pregnancies are a major problem that affects the lives of adolescents and adolescent participation in pregnancy and STI prevention programs is very low, so prevention programs are highly needed (Christopher P. Salas-Wright, Millan A. AbiNader, Michael G. Vaughn, Mariana Sanchez, 2016)

The results of this study were categorized into three themes, namely knowledge about adolescent reproductive health, access to reproductive health information, and reproductive health service providers. Based on the results of the study, all the informants were under 20 years old. The results of the study are in line with previous research that the average age

is between 10-19 years (Ababor et al., 2019). Some factors including age as well as physical, mental, and sexual maturity have a significant effect on pregnancy. In terms of physical and mental conditions, a good pregnancy is when the pregnant woman is between 20 to 35 years old. At this age range, the female reproductive organs and mental health have developed and functioned optimally, thus reducing some pregnancy risk factors. In general, pregnancies by those under 20 years or above 35 years old are high-risks pregnancies (Gunawan, 2010). Adolescent pregnancy leads to a higher risk for infant mortality than pregnancy by women aged 20 to 24 years old (WHO, 2014). Adolescent pregnancy tend to be aborted (Mchunu et al., 2012).

In terms of education, most of the informants did not graduate from high school; even some of them only graduated from elementary school. The results of the study are in line with research by (Saptarini, 2016) that a higher educational level serves as a factor that prevents unwanted pregnancies in Indonesia. Women with higher education (Diploma/Universities)

have a lower risk for unwanted pregnancies compared to those with low educational level (Saptarini, 2016), socio-economics, culture, and education (Muhammad, 2013). In addition, the macrosystem includes socioeconomic status, while the mesosystem includes family structure and education. In fact, education can be categorized into either microsystem or mesosystem, depending on the place where individuals make interactions. Educational experiences are related to socioeconomic status. The microsystem includes individual self-confidence as well as alcohol and drugs experiences (Corcoran *et al.*, 2000). The incidence of adolescent pregnancy causes them to drop out of school, making them no longer have access to education. Other research showed that most of the adolescents who had sexual intercourses before marriage were born by mothers with adolescent childbirth experiences (Bonnell *et al.*, 2006). Such unwanted events may bring negative impacts in the future unless well-resolved. In some adolescents, the incidence of adolescent pregnancy does not bring a deterrent effect. They tend to repeat it after giving birth. A low education level limits thinking skills, causing decision

making to be difficult, especially when distinguishing what is good from what is bad; education is very important for adolescents (Welfare & Building, n.d.) (Lameiras-Fernández *et al.*, 2021).

Education is an effort to develop personality and skills; it takes place both inside and outside schools and lasts a lifetime. The higher the education level of a person, the easier the process of determining and receiving information. The more information received, the more health-related knowledge gained. On the other hand, a lack of education will hinder the development of a person's attitude towards new values. Women who have a high education level will understand the risks of adolescent pregnancy so they can prevent it.

Adolescent pregnancy occurs because adolescents, who are still in the growth and development stage, have a high curiosity so they try to find out for themselves but actually they obtain information from wrong sources. The results showed that adolescents did not have a comprehensive understanding of reproductive health, including reproductive organs and the process of pregnancy. The results also

showed that most of the informants said that reproductive health was the health condition related to only the genital organs, they felt embarrassed when asking questions to their parents related to reproductive health, and they did not know sexual behavior that could cause pregnancy (Susilaksmi et al., 2011). The informants who had an unexpected event already knew that unprotected sexual intercourse could lead to pregnancy but they did not know about the fertile period and the risk of pregnancy. Being in line with research by (Anjarwati, 2019), the respondents lacked knowledge about reproductive health. Meanwhile, knowledge or cognitive skill is a very important domain for the formation of a person's actions because based on the existing experience and previous research, knowledge-based behavior will last longer than non-knowledge-based behavior (Notoatmodjo, 2003). This is in line with the fact that knowledge and attitudes become a significant aspect of adolescent reproductive behavior, particularly in terms of pregnancy prevention. Other factors also contribute to the incidence of pregnancy, including parents' permissive culture with

dating, pressure from boyfriend to have a sexual intercourse, puberty that encourages them to try having sex, or desire to try something new.

In terms of access to adolescent reproductive health services, the results showed that access to information about reproductive health was still limited and there was a lack of information about how to access information about reproductive health. The results of the study are in line with (Susilaksmi et al., 2011) that adolescents with an unexpected event did not know about PKPR services, while the services that they had used were antenatal care, hemoglobin test, immunization for pregnant women, delivery care, and direct consulting services. However, all of the informants said they did not know other programs due to lack of publications. Adolescent reproductive health services have been shown to increase adolescent knowledge about reproductive health (Juliana et al., 2018). In fact, pregnant adolescents require physical and psychological care similar to pregnant adult women. However, pregnant adolescents also need additional support and help

during their pregnancy and after childbirth. Adolescents may have fewer life experiences compared to adult women, potentially causing them to be less capable of coping with the life changes they have to go through due to their pregnancy and childbirth. In addition, they need non-judgmental care throughout their reproductive cycle (Montgomery, 2003) (Álvarez Nieto et al., 2012).

In terms of the need for information about adolescent reproductive health, all the informants felt the need for information about adolescent reproductive health although before being pregnant, they thought it was not necessary. The informants believed that adolescent reproductive health information could help prevent adolescent pregnancy. The results of the study are in line with (Susilaksmi et al., 2011) that the services needed by adolescents with an unexpected event were socialization, consultation, and medical check-up. Socialization services should be carried out at schools by teachers and health workers, while consulting services should be carried out at schools or at public health center. Adolescents need services that are adolescent-friendly and non-

judgmental (Montgomery, 2003). There is a need for adolescent reproductive health services that are adolescent-friendly and adjusted to a sensitive culture and involve parents to increase understanding and awareness of adolescent reproductive health services (Astuti et al., 2020).

Conclusion

The results of the study were divided into three themes, namely knowledge about adolescent reproductive health, access to reproductive health information, and reproductive health service providers. All the informants were under 20 years old. In terms of education, most of the informants did not graduate from high school; even some of them only graduated from elementary school. In terms of knowledge about adolescent reproductive health, the results of the study showed that the adolescent respondents did not have a comprehensive understanding of reproductive health, including reproductive organs and the process of pregnancy. Most of the informants thought that reproductive health was the health condition related to only the genital organs. They felt embarrassed to ask questions to their

parents about it and they wanted to try something new. In terms of access to adolescent reproductive health services, the results showed that access to information about reproductive health was still limited and there was a lack of information about how to access information about reproductive health. In addition, all of the informants said they did not know other programs due to lack of publications. In terms of the need for information about adolescent reproductive health, the results showed that all the informants felt the need for information about adolescent reproductive health. These informants believed that the presence of adolescent reproductive health information could prevent adolescent pregnancy.

Socialization services should be carried out at schools by teachers and health workers, while consulting services should be carried out at schools or at public health center.

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Relationship between Husband's Support and Mother's Work and Exclusive Breastfeeding

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Abstract

Exclusive breastfeeding is one of the goals of Sustainable Development Goals (SDGs) in ending all the forms of malnutrition. Exclusive breastfeeding coverage in DI Yogyakarta is still lower than the target, this is based on lack of husband support and mother's work. The purpose of this study was to analyze the correlation between mothers' occupation and husbands' support and exclusive breastfeeding. The study was quantitative method with cross sectional approach. The samples were 52 people which were taken using purposive sampling. The measurement tool was questionnaire and the data were analyzed using Chi Square. Based on the result of the study, it was found that almost all mothers who do not work give exclusive breastfeeding (77,8%), and all mothers who received support from their husbands gave exclusive breastfeeding (100%). The probability value (p) was 0.026 and $p = 0.015$. In conclusion, there is a correlation between mothers' occupation and husbands' support and exclusive breastfeeding. Working mothers are suggested to understand breastmilk management (how to pump breast milk, how to give pumped milk to the baby, and how to keep breast milk in freezer) and utilize lactation room in their working place as well as involving husbands in counselling activities about the importance of exclusive breastfeeding.

Keywords: exclusive breastfeeding, husband's support, mother's occupation

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Introduction

One of the SDGs targets is to reduce all forms of malnutrition by offering exclusive breastfeeding. Breast milk is the optimal food and has the perfect combination of nutrients and is given from the age of 0-6 months without the addition of other foods (except drugs, vitamins and minerals) (Dibis, 2020; Charlick, et al., 2019 ; Elyas, et al., 2017). Exclusive breastfeeding for 6 months is a form of health behavior that can reduce infant mortality, prevent infection, assist recovery, increase child immunity, protect mothers from the risk of ovarian and breast cancer and reduce obesity (Arikawa et al., 2018; Forbes-mckay, et al., 2018; Fan HSL, 2019).

Based on the Indonesian Ministry of Health (2017), the coverage of exclusive breastfeeding in Indonesia is only 61.33%. DI Yogyakarta exclusive breastfeeding coverage of 75.04%, has not reached the expected figure targeted by the government of 80% (Kemenkes RI, 2017). Yogyakarta City Regency has the lowest exclusive breastfeeding coverage at 66.13%. Meanwhile, Gondokusuman I Health Center located in the Yogyakarta City Region had the lowest exclusive breastfeeding coverage of 49.51% of a total of 507 babies (Dinkes Kota Yogyakarta, 2018). Puskesmas Gondokusuman I was ranked 7th in

the lowest exclusive breastfeeding coverage and the highest number of babies from 18 Puskesmas in Yogyakarta City was 49.51% in 2017. Exclusive breastfeeding from a total of 245 babies aged 6 months.

The government has determined the role of midwives in educating exclusive breastfeeding, namely the Regulation of the Minister of Health of the Republic of Indonesia Number 28 of 2017, which states that midwives are authorized to guide/facilitate early initiation of breastfeeding and promotion of exclusive breastfeeding (Permenkes RI, 2017). Although midwives have the authority to provide education related to exclusive breastfeeding, the coverage of exclusive breastfeeding in Indonesia is still low. This low coverage is related to the traditional practice of breastfeeding among indigenous tribes in Indonesia, such as introducing food or drinks to babies who are a few days old such as honey, water, sugar, and sago solution (Maghfiroh, et al., 2020; Pratiwi, et al., 2019).

In addition to sociocultural factors, factors that influence exclusive breastfeeding are husband's support. Based on Jama et al's research entitled "Exclusive breastfeeding for the first six months of life and its associated factors among children age 6-24 months" found that the lack of exclusive breastfeeding was closely related

to the lack of husband's support. The husband's involvement in encouraging mothers to do routine antenatal care, counseling and exclusive breastfeeding can motivate mothers to continue breastfeeding (Jama, et al., 2020; Chen et al., 2019). In particular, knowledge and experience as well as workplace factors are the main drivers of breastfeeding by mothers (Abekah-Nkrumah, Antwi, et al., 2020).

The other hand, mother's occupation status was another barriers to the success exclusive breastfeeding. Mother's return to work after giving birth reduces the bonding between mother and baby, including breastfeeding (Bue & Priebe, 2017; Charlick et al., 2019; Laksono et al., 2021; Tadesse, et al., 2019). Wake et al., 2021 stated the same thing that mothers who work full time will contribute to the low practice of exclusive breastfeeding to babies (Wake, 2021).

Based on nutritionist in Gondokusuman I Public Health Center, the reason why babies are not given exclusive breastfeeding is that many mothers working outside, so they dont have free time to give excucive breastfeeding. In addition, respondents conducted interviews with 10 respondents, it was found that give working mothers didnt give exclusive breastfeeding, four mother sometimes give breastmilk and one

mother didnt pump her breast milk becouse there was no lactation room. Based on premiminary study there is gap between theory and practice. Therefore, researcher is interested to analyze the correlation between mothers' occupation and husbands' support and exclusive breastfeeding. in Gondokusuman I Public Health Center Work Area.

Method

This reasearch was a quantitative research with a cross sectional approach. The population were all mothers who have babies aged 6-23 months in the working area of the Gondokusuman I Public Health Center and reside in Baciرو Village. Data Collection tool with a questionnaire that has been tested for validity and reability. The sample involved 52 mothers and the sampling technique was purposive sampling. Data analysis using chi square test.

Result and Discussion

The results of research conducted to suggest that the characteristics of respondents, as follows. Based on table 1, it can be seen that almost all respondents are aged 20-35 years as many as 41 respondents (78,8%) and most of them have high school education as many as 29

respondents (55,8%). Most of respondents who had multigravida were 30 respondents (30,08%).

Most of respondents who work and have working hours/day were 12 respondents (63,1%)

Table 1. Characteristic Frequency Distribution

Characteristic	F	%
Age		
<20 years	1	1,9
20-35 years	41	78,8
>35 years	10	19,2
Education		
Primary School	3	5,8
Junior High School	4	7,7
Senior High School	29	55,8
Bachelor Degree	16	30,8
Parity		
Primigravida	13	25
Multigravida	30	57,7
Grandemultipara	9	17,3
Working hours		
≥8 hours/day	12	63,1
<8 hours/day	7	36,9
Total	52	100

Based on table 1, it can be seen that almost all respondents are aged 20-35 years as many as 41 respondents (78,8%) and most of them have high school education as many as 29 respondents

(55,8%). Most of respondents who had multigravida were 30 respondents (30,08%). Most of respondents who work and have working hours/day were 12 respondents (63,1%)

Table 2. Frequency Distribution Mother's Job

Occupation	F	%
Work	33	63,5
Doesnot work	19	36,5
Total	52	100

Based on table 2, it can be seen that the majority of respondents who donot work as many as 19 mothers (36,5%), compared to

respondents who work as many as 33 mothers (63,5%).

Table 3. Frequency Distribution Husband Support

Husband Support	F	%
Support	47	90,4
Doesnot Support	5	9,6
Total	52	100

Based on table 3, it can be known that almost support on exclusive breastfeeding compared to entirely, 47 respondents (90,4%) husbands 5 mothers who do not got support (9,6%)

Table 4. Frequency Distribution Exclusive Breastfeeding

Husband Support	F	%
Breastfeeding	27	51,8
Not exclusive breastfeeding	25	41,8
Total	52	100

Based on table 4, it can be seen that the while those who did not gave exclusive majority of respondents who gave exclusive breastfeeding were 25 respondents (48,1%) breastfeeding were 27 respondents (51,8%)

Table 5. Correlation between mother occupation and exclusive breastfeeding

Occupation Mother	Exclusive Breastfeeding				Total		P-value
	Yes		No				
	F	%	F	%	f	%	
Work	12	48	21	77,8	33	63,5	0,026
Do not Work	13	52	6	22,2	19	36,5	
Total	25	100	27	100	52	100	

Based on table 5, it showed that almost all (52%). Based on statistical test analysis using chi mothers who did not work gave exclusive square, it was found that the p-value was 0,026 breastfeeding as many as 21 mothers (77,8%) that there was a significant relationship between and most of working mothers didnot give working mother and exclusive breastfeeding. exclusive breastfeeding as many as 13 mothers

Table 6. Correlation between mother occupation and exclusive breastfeeding

Husband's Support	Exclusive Breastfeeding				Total		P-value
	Yes		No				
	F	%	F	%	f	%	
Support	5	20	0	0	5	9,6	0,015
Do not Support	20	80	27	100	47	90,4	
Total	25	100	27	100	52	100	

Based on table 6, it showed that a small husbands as many as 5 mothers (20%), and proportion of mothers who did not give exclusive mothers who gave all exclusive breastfeeding breatfeeding did not receive support from thir received support. Based on statistical test analysis

using Chi Square, it was found that the p value was 0.015, that there was a significant relationship between husband's support and exclusive breastfeeding.

Conclusion

Based on statistical test analysis, it was found that there was a significant relationship between husband's support and mother's occupation with exclusive breastfeeding.

The reason why respondents did not give breast milk were because they had to return to work, so they had to leave their babies at home and could not give exclusive breastfeeding. Several mother said the milk production was low and the baby continued to cry even though they were fed, and the baby did not gain weight, so they gave other food/drinks to the baby.

This is in line with table 4. of the frequency distribution of the exclusive breastfeeding questionnaire, it was found that a small proportion of mothers had given formula milk or additional food to babies before the age of 6 months because of reduced milk production, and mothers had given formula milk before the baby was 6 months old because they were tired of working.

Based on the distribution table of the questionnaire, only 12 mothers were known to

not give exclusive breastfeeding. Based on the answers of respondents, it was found that 12 mothers who did not work or had household status started giving sugar water, rice water (tajin), applying honey, giving complementary feeding, giving biscuits, and give porridge before the baby is 6 months old. Furthermore, Of the 19 working mothers, 12 respondents worked 8 hours/day. Of the 12 respondents, only 4 respondents gave exclusive breastfeeding.

This study is in line with research conducted by (Mabaso et al., 2020) which stated that the obstacle for working mothers in breastfeeding is the policy of too short leave. In fact, some mothers are forced not to extend maternity leave due to financial needs, and are worried about how to provide optimal breastfeeding when the mother returns to work. The anxiety felt was that the lactation room did not meet the standards, spent a long time pumping breast milk and there was no lactation room. this is the obstacle for mothers when they return to work and try to wean their baby. Research conducted by (Akhter, R, et al., 2017; Akhter, et al., 2017; Naved, et al., 2018) reveals that several female garmen workers experience violence in the workplace, stress caused by working too long hours and even anxiety.

Whereas, The government has regulated in Government Regulation No. 33 of 2012 concerning exclusive breastfeeding, in article 30 it is stated that workplaces and places of public advice must support exclusive breastfeeding programs in accordance with the provisions in the workplace that regulate the working relationship between employers and workers through agreements jointly between the trade union or labor union with the entrepreneur, workplace administrators and organizers of public facilities, special facilities for breastfeeding and must provide breast milk in accordance with the conditions of ability (Permenkes RI, 2012). But, there are still some companies/workplaces that do not provide lactation rooms.

Other studies show that the reason mothers stop working is due to lack of support for breastfeeding and no child care (Hasan et al., 2020). In fact, the support of the workplace environment and childcare contribute significantly to the success of breastfeeding to achieve several sustainable development goals (Katsinde & Srinivas, 2016). Other studies also mention that work-related factors that influence breastfeeding practices are work allowances, travel time, work environment, and labor intensity (Solotaroff et al., 2019).

In addition to the mother's work, husband's support in fact also has a significant impact on exclusive breastfeeding for baby. This is in line with the results of the study showing that there is a relationship between the variables of husband's support and exclusive breastfeeding. Based on the results of the study, it showed that a small proportion of mothers who did not give exclusive breastfeeding did not receive the support of their husbands as many as 5 people (20%). The distribution of the husband's support questionnaire in exclusive breastfeeding, stated that a small proportion of husbands told mothers to provide additional food when the baby was less than 6 months old, guided mothers on how to give expressed breast milk to babies, when mothers were breastfeeding, husbands gave time-consuming household chores. so that the mother cannot breastfeed, she is worried if the baby is only breastfed for 6 months.

Research conducted by (Merida, et al., 2020) states that family support and father's level of education are very strong related to the practice of exclusive breastfeeding for workers mother.

In line with research conducted by (Wasiah, et al., 2020) also shows that one of the success and failure factors in breastfeeding is husband's support. The support provided by the husband

can be in the form of emotional support and practical assistance. Practical forms of assistance include baby activities, feeding, baby massage, changing diapers, and loving babies. In addition, most mothers are reluctant to breastfeed due to physiological reasons, therefore, encouragement from their husbands and motivation to grow the mother's confidence in providing exclusive breastfeeding to the baby.

Recommendation

For working mothers, it is hoped that they can understand breastfeeding management including: how to pump breast milk, how to give breast pump to babies, how to store breast milk in the refrigerator while the mother is working so that the baby gets breast milk for six months without any additional food or drink, utilizing the lactation room in place, work to pump and store breast milk while at work. For husbands, it is hoped that they can involve their husbands in outreach activities held by the public health center in each integrated health center regarding the importance of exclusive breastfeeding.

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Fetal Outcomes on The Maternity Do Prenatal Gentle Yoga in Mataram

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Abstract

Pregnancy and delivery in a mother is a process that natural. Natural process this to run smoothly needed physical activity. Yoga is physical activity have the effect of the physical individuals do yoga and helping pregnant women to reach balance lives and also prompted a good physical the baby (fauziah I.2016). Research aims to understand on the fetal outcome on the maternity do prenatal gentle yoga in mataram. A method of this research is descriptive and the total sample in this research as many as 29 respondents to technique the sample used is the total the sampling method of as well as data taken using a questionnaire and a record of observation. The results showed that the fetal outcome in as a weight of a newborn infant are normal 29 respondents (as many as 100 %), the body length of a newborn infant all are normal respondents (as many as 27 % 93,1), Asphyxia in newborn infants are categorized not asphyxia as many as 26 respondents (89.7 %), the temperature of the body of the newborn categorized as normal as many as 29 respondents (100 %), hemoglobin levels of a newborn infant not anemia are categorized as many as 22 respondents (75,9 %). Conclusions from the results of research obtained almost all fetal outcome in a new baby seem normal. Are expected to carry out research komparasi to long duration gymnastic yoga for pregnant to see significant impact on a new baby born and the condition of pregnant mothers during pregnant.

Keywords: *fetal outcome, prenatal gentle yoga, maternity*

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Introduction

Pregnancy and childbirth in a mother is a natural process. This natural process in order to run smoothly requires physical activity such as pregnancy exercise. This is done so that pregnancy takes place in excellent health conditions so that diseases

during pregnancy and childbirth can be prevented or reduced (Manuaba, 2010).

The infant mortality rate is one indicator that describes the degree of public health. Factors that influence infant mortality include the level of knowledge/education of both parents, age at first marriage,

consumption patterns, healthy living behavior, socio-economic conditions, customs, environmental hygiene and health services. Based on Indonesia's population and demographic survey data, the National Infant Mortality Rate (IMR) is 34 per 1,000 live births (IDHS, 2017).

The number of infant mortality cases in Mataram City in 2016 was recorded as 34 cases. The following is the distribution of infant mortality in 2016 and 2017 based on Puskesmas in Mataram City: In 2017 the highest number of cases were in the Ampenan and Tanjung Karang Health Centers, which were 6 cases. Meanwhile, the proportion of infant mortality cases by age and cause of infant death in Mataram City in 2017 infant mortality cases (aged 0-11 months) were very prone to occur in infants aged 0-28 days (neonatal).

This is indicated by as many as 30 cases (88.24%) of infant deaths occurred in the neonate period (infants aged 0-28 days). The causes of infant mortality cases were mostly caused by low birth weight (33.34%) in 10 cases and asphyxia (23.34%) in 7 cases (Mataram Health Office, 2017). Based on the 2017 Tanjung Karang Health Center work area data report, the coverage of K1 was

1328 (100%) and K4 was 1328 (95.03%), September-December 2018 data for 121 pregnant women and 29 pregnant women who participated in pregnancy exercise. (PWS KIA Tanjung Karang Health Center, 2018).

Yoga is a physical activity that affects the physicality of individuals who do yoga and helps pregnant women to achieve mental balance and also has a good impact on the baby's physical (fauziah L. 2016). According to Dewi and Novita's research, pregnant women who do prenatal yoga and exercise during pregnancy have a significant effect on the baby's physique. And based on the results of the study, it was also revealed that prenatal yoga activities had a higher influence relationship value than mothers who did not do prenatal yoga.

Based on the results of previous studies which showed significant results with the following results: Based on the results of these statistical tests, it can be seen that the total score of anxiety levels related to pregnancy was obtained by the Asymp value. Sig = 0.109 which is greater than the significance level = 0.05 then Ho is accepted (Fauziah L., 2016).

In Indonesia, there are exercises intended for pregnant women, one of which is known as prenatal yoga, prenatal yoga is a modification of basic yoga exercises adapted to the movements of pregnant women. Yoga is a body, mind, and mental exercise that really helps pregnant women in flexing their joints and calming their minds, especially for pregnant women in the second and third trimesters. The movements in prenatal yoga are carried out at a slower tempo and adjust to the pregnant woman's space capacity.

Prenatal yoga has five ways namely physical yoga practice, breathing (pranayama), positions (young), meditation, and deep relaxation that can be used to benefit during pregnancy so that it can help smooth pregnancy and birth naturally and help ensure good health. baby. of elements of relaxation and meditation. Yoga during pregnancy can help women focus on the labor process, be prepared to deal with pain and turn stress and anxiety into energy (Sun, et al, 2010).

Doing yoga exercises can reduce maternal and infant mortality. In general, yoga has many benefits, both physically and mentally. The benefits can also be felt by the

baby and the mother who accompanies him (Tina Maladi, 2013).

From the description above, the general purpose of this study was to determine the fetal outcome of mothers who gave birth gently prenatally in Mataram.

Method

The research design used is descriptive. This research was carried out in 2019. The variable in this study was a single variable, namely Fetal Outcome in pregnant women who did Prenatal Gentle Yoga in Mataram City.

The population in this study were all mothers giving birth in the Tanjung Karang Health Center working area, totaling 29 respondents who did Prenatal Gentle Yoga. The sampling technique in this research is total sampling. Total sampling is taking the same sample with the existing population of 29 people. In this study using an observation sheet which includes body length, Apgar score, body weight, body temperature, hemoglobin level, and placental weight.

Data processing techniques are carried out by means of data processing

(Editing), Coding (Coding), Scoring and Entry). The data analysis technique used in this study uses simple statistical calculations, namely presentations or proposals. In this study, data analysis was carried out using univariate analysis. The percentage or proportion will be a relative frequency distribution if the data used are quantitative data. In this univariate analysis, among others, the identification of respondents.

Result and Discussion

Based on the results of the study, the average characteristics of the respondents showed that most of them were in the normal category. Respondents who do pregnancy yoga will have a placenta with the appropriate weight so that it will give birth to a baby with a birth weight of more than 2500 grams. This can be explained considering that exercise will increase blood flow to the uterus which is an important route for nutrient supply and fetal metabolism, there is a positive relationship between placental weight and birth weight.

In line with a study conducted by Narendran et al 2005, which examined the

effects of yoga from 20 weeks of age until delivery, showed that the number of babies weighing more than 2500 grams was significantly more than women who did not follow yoga. In addition, the number of women who underwent preterm labor was significantly lower and the occurrence of complications such as IUGR was significantly less common among women who practiced yoga.

Table 1. Frequency distribution of Respondents Characteristics in Mataram Karang year 2019.

Category	Frequency	
	n	%
Weight		
LBW	0	0%
No LBW	29	100%
Total	29	100%
Body leght		
Normal	27	93,1%
Not Normal	2	6,9%
Total	29	100%
Plasenta weight		
Normal	26	89,7%
Not Normal	3	10,3%
Total	29	100%
Level HB		
Not Anemia	22	75,9%
Anemia	7	24,1%
Total	29	100%
Apgar Score		
Not Asphyxia	26	89,7%
Asphyxia	3	10,3%
Total	29	100%
Body temperature		
Normal	29	100%
Not Normal	0	0%

Total	29	100%
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Source: Primary Data

According to research by Aulia (2010), pregnant women who do pregnancy exercise will have a heavier placenta due to increased placental blood flow, thus nutrition to the fetus will be better.

Yoga will affect the condition of the newborn. Mothers who do yoga will give birth to babies who immediately cry or breathe spontaneously, have normal body temperatures and normal hemoglobin levels. Babies born to mothers who do exercise during pregnancy will give good tolerance during childbirth, babies are born in vigorous conditions and are able to adapt well outside the womb so that no babies need special care (Clap, 2005). The incidence of low APGAR is also reduced in infants of mothers who do exercise during pregnancy, there is no indication of neurological deficits, and studies show psychomotor improvements in infants.

Research conducted by Pivarnik (2011) also showed that exercise for pregnant women can significantly reduce plasma volume, total protein, and albumin concentration. Therefore, giving pregnant

exercise can affect the decrease in plasma volume, as a result the concentration of hemoglobin, hematocrit, and the number of red blood cells will increase and reach a point of balance.

Practicing yoga during pregnancy has shown many benefits and no adverse effects have been produced (Narendran et al., 2005; Sun et al., 2010). Some of the benefits of prenatal yoga are reduced maternal stress levels, reduced pregnancy-related pain, improved sleep quality during pregnancy, and increased overall newborn extrauterine adaptation.

Conclusion

The results showed that all respondents did not experience LBW, namely 29 people (100%, most respondents APGAR Score 7-10, namely 26 respondents (89.7%) and a small proportion of respondents APGAR Score 4-6, namely 3 respondents (10.3%, most of the respondents' body length was normal, namely 27 respondents (93.1%) and a small proportion of respondents' body length was abnormal, namely 2 respondents (6.9%), the body temperature of newborns were all

normal, namely 29 respondents (100%, most of the respondents not anemic, namely 22 respondents (75.9%) and a small proportion of anemic respondents, namely 7 respondents (24.1%, most of the respondents' placenta weight was normal, namely 26 respondents (89.7%) and a small portion of the respondents' placenta weight was abnormal, namely 3 respondents (10.3%).

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Comparison of The Effectiveness of Lavender and Lemon Aromatherapy Toward Reducing Pain Labor During Active Phase of First Stage

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Abstract

Based on a survey conducted by the City of Mataram in December 2020, there were 15 maternity patients obtained by 9 patients who said that the pain felt like prickling, heat radiated along the waist and lower abdomen, and based on direct observation during the delivery process someone had used lavender aromatherapy to treat pain. overcome pain during childbirth in the city of Mataram so based on these data felt the need to do this research. The purpose is to analyze the relationship of food intake and characteristics pregnant women with incidence of KEK in pregnant women in the town of Mataram city 2020. The type of research used in this study was a quasi-experimental using a non-equivalent control group pretest and posttest research design with the provision that 15 maternity mothers were given lavender aromatherapy and 15 respondents were given lemon aromatherapy. The sampling technique in this study uses total sampling. There was a significant difference before and after being given lavender aromatherapy with p value $0.01 < 0.05$, the same result was obtained in the lemon aromatherapy group with p value $0.01 < 0.025$. From the posttest results of both groups, it can be concluded that the average decrease in lavender aromatherapy was 0.53 compared to the lemon aromatherapy group, which was 0.3, which means that there was a significant decrease in pain intensity in the lavender aromatherapy group compared to the lemon aromatherapy group. Conclusion there is a Comparison of the Effectiveness of Lavender and Lemon Aromatherapy on Reducing Pain Intensity in Active Phase I Labor.

Keywords: *lavender aromatherapy, lemon aromatherapy, labor pain*

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Introduction

Improving maternal health is the fifth Millennium Development Goals (MDGs) to be achieved by 191 UN member states by 2015, including Indonesia. Reducing 2/3 of MMR during childbirth (1990-2015) is one of

the targets to improve maternal health, in addition to access to standard health services by 2015. MMR is targeted to decrease from 390 per 100,000 live births in 1990 to 102 per 100,000 live births in 2015. Until 2015, it turned out that the

MDG 5 target could not be achieved (Susiana, 2019).

Labor is a time that pregnant women look forward to, but for some women, childbirth is sometimes filled with fear and anxiety about the pain of childbirth. Anxiety activates the sympathetic nervous system, releasing stress hormones that contribute to dysfunctional uterine contractility and prolonged labor (Tzeng, Chao, Kuo, Lin, & Chen, 2017).

Pain due to labor contractions will cause discomfort so pain management is needed to avoid negative effects on both mother and fetus. There are several methods of pain management. Pharmacological methods have side effects while non-pharmacological methods are more efficient and have minimal side effects (Izzatul and Sri, 2019).

Pain management can be done pharmacologically, namely by administering analgesic and sedative drugs. Meanwhile, non-pharmacologically through distraction, relaxation and skin stimulation, warm or cold compresses, breathing exercises in music, aromatherapy, reiki, guided imagination, hypnosis, relaxation (Nurasiah, 2012).

Many recent studies suggest that complementary therapies, especially aromatherapy with essential oils, are able to provide comfort and prevent infection. Aromatherapy in the form of lavender essential oil is one of the complementary therapies that can overcome pain and infection because it is an anti-inflammatory, analgesic and antimicrobial (Muchtaridi, 2015).

Lavender aromatherapy contains linalool, and linalyl acetate, which have an analgesic effect that can make a person calm, therefore it is not surprising that some current reports suggest aromatherapy to reduce pain, aches and stress levels in pregnancy and childbirth (Jaelani, 2009).

Methods

The type of research used in this study is a quasi-experimental research design using a non-equivalent control group pretest and posttest, where this study will use two groups (Sulistyaningsih, 2011). The first group was given lavender aromatherapy (intervention group), while the second group was given lemon aromatherapy (control group).

The study began by identifying the active phase 1 parturition mothers in the city of Mataram, then both groups were measured using a VAS Questionnaire (Visual Analog Scale) on the level of pain, then the treatment group was given aromatherapy by inhalation while the control group was A. given lemon aromatherapy therapy. After one hour, both the treatment and control groups were re-measured the respondent's pain level using the Behavioral Observation B. Sheet with the Visual Analog Scale (VAS).

The sample used in this study were 30 primigravida mothers who gave birth in Mataram City. The sampling technique used was Total Sampling. Inclusion criteria in this study include:

Inpartu patient in the first stage of opening 4, term with singleton pregnancy, cephalic presentation, 37-40 weeks gestation, planning to give birth normally in Mataram City. Bersedia menjadi subyek penelitian

1. Do not get anti-pain medication and or induction.
2. Not in a condition where there is an olfactory disorder

The exclusion criteria in this study were inpartu mothers who had allergies to the aroma or essential oils of lavender and lemon

Results and Discussion

Univariate Analysis Result

The characteristics of inpartum mothers that have been studied are distributed into the distribution table as follows:

Table 1. Frequency Distribution Based on Characteristics of Respondents

Characteristics	Eksperiment	
	Frequency (N)	Percentage (%)
Age		
<20 Years old	0	0,00
20-35 Years old	26	86,7
>35 Years old	4	13,3
Total	30	100,0
Education		
No school	0	0,00
Junior High School	6	20,0
High School	18	60,0
Degree	6	20,0
Total	30	100,0
Work		
Does not work	25	83,3
Work	5	16,7
Total	30	100,0
parity		
1 Children	10	33,3
2-4 Children	19	63,3
>5 Children	1	3,3
Total	30	100,0

The characteristics of the respondents in this study were mostly 20-35 years old with the same number in the experimental group and the control group as many as 26 (86.7%). Young age tends to be associated with psychological conditions that are still unstable, which triggers anxiety so that the pain felt becomes more severe. Age is also used as a factor in determining tolerance to pain, tolerance will increase with age and understanding of pain.

The majority of respondents education in this study was 18 (60%). Lawrence Green's theory that educational factors have a major influence on health behavior. Education is one of the important factors that encourage a person to be more concerned and motivated to improve the health status of himself and his family. Education makes a person have broad knowledge and his mindset is well developed so that awareness for positive behavior, including in terms of health, is increasing.

In this study, the majority of respondents did not work as many as 25 (83.3%). Light activity is useful to distract and reduce pain before delivery, as long as

it does not do exercises that are not too hard and heavy, and cause pain.

fatigue in women because this will actually trigger more severe pain.

1. The majority of respondents in this study were multigravida as many as 19 (63.3). Previous experiences such as previous deliveries will help the mother in dealing with pain, because the mother already has coping with pain. Multiparous and primiparous mothers are likely to respond to pain differently even though they face the same condition, namely childbirth. This is because multiparous mothers have experience in previous deliveries.

Pain Intensity Before and After Giving Lavender Aromatherapy

Table 2 Pain Intensity Before and After Giving Lavender Aromatherapy

No.	Aromatherapy Lavender	Pretest		Posttest	
		Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)
1.	Not Pain	0	0,00	0	0,00
2.	Mild Pain	0	0,00	2	13,3
3.	Moderate Pain	1	6,7	2	13,3
4.	Severe Pain	11	73,3	11	73,3
5.	Very Severe Pain	3	20	0	0,00
	Total	15	100	15	100

From the results of the Pretest in the Aromatherapy group, the majority experienced severe pain in 11 (73.3%), very severe pain 3 (20%) and mild pain in 1 (6.7%). The posttest results showed 11

(73.3%), mild pain 2 (13.3) and none experienced severe pain. This shows that there is a decrease in pain intensity after being given lavender aromatherapy.

Table 3. Pain Intensity Before and After Giving Lemon Aromatherapy

No.	Aromatherapy Lemon	Pretest		Posttest	
		Percentage (%)	Frequency (N)	Percentage (%)	Presentase (%)
1.	Not Pain	0	0,00	0	0
2.	Mild Pain	0	0,00	0	0,00
3.	Moderate Pain	0	0,00	5	33,3
4.	Severe Pain	15	100	12	66,7
5.	Very Severe Pain	0	0,00	0	0,00
	Total	15	100	15	100

From the results of the Pretest in the Lemon Aromatherapy group, 15 (100%) experienced severe pain. The posttest results showed 12 (80%) severe pain and 2 (13,3%) moderate pain. This shows that there is a decrease in pain intensity after being given lemon aromatherapy.

Results of Bivariate Analysis

The results of the normality test of pain intensity data in the active phase of the first stage of labor with the Shapiro-Wilk Test on the pretest and posttest stated that the data was not normally distributed with the pretest results in the intervention group $p\text{-value} = 0.00 > 0.05$ and at the posttest 0.00,

while in the pretest control group the intervention group $p\text{-value} = 0.00 > 0.05$ and in the posttest 0.00. This shows that the bivariate test uses the Wilcoxon test.

The Effect of Giving Lavender Aromatherapy

Table 4 Lavender Effects of Giving Lavender Aromatherapy

Intervensi	Mean	N	Std Deviasi	P value
Pretest	4,13	15	0,52	0,01
Posttest	3,60	15	0,73	

The results of the bivariate analysis showed that the lavender aromatherapy intervention group had an average pain intensity of 4.13 and the post-test results showed that the average pain intensity decreased by 3.60. In the statistical test, the p value was $0.01 < 0.05$, so it can be concluded that there was a significant difference before and after giving lavender aromatherapy. The results of the same study by Yona (2019) in Lampung stated that there was a decrease in the intensity of maternal pain after being given lavender aromatherapy. Yazdkhasti et al (2016) stated that aromatherapy with lavender

essential oil significantly reduced pain intensity during labor.

Several studies have shown that lavender essential oil can provide relaxation (carminative), sedative benefits, reduce anxiety levels, and can improve one's mood (Dewi, 2013).

Research conducted on humans regarding the effects of lavender aromatherapy for relaxation, anxiety, mood, and alertness on EEG (Electro Encephalo Gram) activity showed a decrease in anxiety, improved mood, and an increase in the strength of alpha and beta waves on the EEG which indicated an increase in relaxation. The results also showed that there was a significant increase in the strength of alpha waves in the frontal area, which indicated an increase in sleepiness. (Yamada, et al, 2005).

The Effect of Giving Lemon Aromatherapy

Table 5. Effects of Giving Lemon Aromatherapy

Intervensi	Mean	N	Std Deviasi	<i>P value</i>
Pretest	4,00	15	0,00	0,025
Posttest	3,70	15	4,88	

Bivariate analysis on the pretest showed that in the lemon aromatherapy group the average pain intensity was 4.00 and the post-test results showed that the average pain intensity decreased by 3.70. In the statistical test, the *p* value of 0.025 < 0.05, it can be concluded that there is a significant difference before and after giving lemon aromatherapy. Another study that supports this research is Rosyidah's (2015) research on the effect of neroli (Citrus Aurantium) inhalation aromatherapy on labor pain in the active phase I, which states that there is an effect of Citrus Aurantium aromatherapy on labor pain in the active phase I.

Lemon aromatherapy is an effective non-pharmacological method to reduce labor pain. Lemon aromatherapy is an essential oil produced from the extraction of lemon peel (Citrus Lemon) which is often used in aromatherapy and is safe for pregnancy and childbirth (Medforth et al., 2013). According to Young (2011) lemon aromatherapy oil is easy to obtain and contains limonene 66-80%, geranyl acetate, nerol, linalyl acetate, -pinene 0.4-15%, -pinene 1-4%, terpinene 6-14% and myrcen. Limonene is the main component

in citrus chemical compounds that can inhibit the work of prostaglandins so that they can reduce pain (Cheragi 2010). The content of limonene controls cyclooxygenase I and II, prevents prostaglandin activity and reduces pain (Namazi et al., 2014). The ester compounds in lemon are very useful for normalizing emotional states and unbalanced body conditions, and also have efficacy as a sedative and tonic, especially in the nervous system (Tarsikah, et al., 2012).

Inhaled lemon aromatherapy will be transmitted to the olfactory center located at the base of the brain. The fragrance produced by lemon aromatherapy will stimulate the thalamus to activate the release or release of neurotransmitters such as enkephaline, serotonin and endorphins which function as natural pain relievers, enkephalines are neuromodulators that function to inhibit physiological pain (Tarsikah et al., 2012; Potts, 2009; Butje 2009).

Comparison of Lavender and Lemon Aromatherapy on reducing labor pain intensity

The results of the bivariate analysis showed that there was a significant difference before and after giving lavender aromatherapy with a p value of $0.01 < 0.05$. The average pretest pain intensity was 4.13 and the pain intensity decreased by 3.60 on the post-test results. In the Lemon Aromatherapy group, there was a significant difference before and after giving lemon aromatherapy with a p value of $0.025 < 0.05$. The average pretest pain intensity was 4.00 and the pain intensity decreased by 3.70 on the post-test results.

From the posttest results of the two groups, it can be concluded that the average decrease in the administration of lavender aromatherapy was 0.53 higher than that of the lemon aromatherapy group, which was 0.3, which means that there was a significant decrease in pain intensity in the lavender

aromatherapy group compared to the lemon aromatherapy group.

Conclusion

The pretest results show that in the lavender aromatherapy intervention group the average pain intensity is 4.13 and the post-test results show that the average pain intensity has decreased, which is 3.60. In the statistical test, the p value was $0.01 < 0.05$, so it can be concluded that there was a significant difference before and after giving lavender aromatherapy.

The pretest results show that in the lemon aromatherapy intervention group the average pain intensity is 4.00 and the post-test results show that the average pain intensity has decreased, which is 3.70. In the statistical test, the p value of $0.025 < 0.05$, it can be concluded that there is a significant difference before and after giving lemon aromatherapy.

From the posttest results, it can be concluded that the average lavender aromatherapy treatment was 3.60 lower than the lemon aromatherapy group, which was 3.70, which means that there

was a significant decrease in pain intensity in the lavender aromatherapy group compared to the lemon aromatherapy group.

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Vaccine Cold Chain Management at Puskesmas Level in Semarang City

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Abstract

At present, measles is the biggest cause of child mortality among other diseases that can be prevented by immunization. Vaccines are biological elements that have certain characteristics and require special cold chain handling of vaccines since they are produced at the factory until they are used in service units. With the wrong method of storing vaccines, it can cause damage to the vaccine causing AEFI (Post Immunization Adverse Events). Cold chain procedures must be managed properly by keeping vaccines within the recommended temperature range from the transport stage to vaccine storage. The purpose of this study was to determine how the vaccine cold chain is managed at the Puskesmas level in the city of Semarang. The design of this research is cross sectional. The samples in this study were vaccine management officers and vaccine storage facilities. The sampling technique in this study was simple random. The sample size is 5 health centers in the city of Semarang. The data was collected by interviewing the Puskesmas officers and observing the vaccine storage facilities at the Puskesmas. From the results of the study, it was found that there were more respondents who had never received cold chain management training than those who had attended training. To increase the knowledge and skills of immunization officers, it is necessary to conduct training in accordance with the training module for immunization officers.

Keywords: management; cold chain; vaccine

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Introduction

Immunization is an effort to actively induce/increase a person's immunity against a certain disease, so that if one day he is exposed to the disease he will not get sick or only experience mild illness. Several infectious diseases included in PD3I include tuberculosis, diphtheria, tetanus, hepatitis B, pertussis, measles, polio, inflammation of the lining of the brain and inflammation of the lungs. Children who have been immunized will be protected from these dangerous diseases, which can cause disability or death.

Vaccine management can be divided into two groups, namely the classification of vaccines based on antigens and classification based on sensitivity to temperature. McGuire conducted a 2006 study in Pakistan that out of 90 samples of vaccine shipments, 60% of vaccines were exposed to freezing temperatures when carried by the postal service. PATH/UNICEF (2005) conducted temperature monitoring in the cold chain in Bolivia showing freezing occurs at almost every level of every cold chain distribution system, especially during refrigerated storage, of 25 samples 60% experienced freezing, and also during transportation, of 11 100% vaccine shipment samples were frozen.

The cold chain is an interrelated procedure designed to keep vaccines within the recommended temperature range from the point of production to the point of service. Vaccine cold chain equipment is all equipment used in vaccine management to maintain vaccines at a predetermined temperature. In order for the quality of the vaccine cold chain to be guaranteed until the vaccine is received by the target, the following procedures must be carried out, namely storing vaccines and solvents at the right temperature at all levels of storage and service, distribution of vaccines according to procedures in stages to service levels.

Based on the results of the 2020 census, 99.76% of children under five in the city of Semarang have been immunized, where all female children under five have been immunized, while 99.54% of male children have been immunized. The percentage of children under five who have been given mandatory immunization from the government has covered more than 90% except for measles immunization coverage which only reached 73.4%.

Method

The design of this research is cross sectional. The samples in this study were vaccine management officers and vaccine storage

facilities. The sampling technique in this study was simple random. The sample size is 5 health centers in the city of Semarang. The data was collected by interviewing the puskesmas officers and observing the vaccine storage facilities at the puskesmas.

This study used a questionnaire that was used to collect data on puskesmas officers. Data analysis using univariate method, namely by presenting data in tabular form and interpreting research data.

Result and Discussion

An overview of the characteristics of the vaccine cold chain manager at the Semarang City Health Center can be seen from the table below:

Table 1. Distribution of Vaccine Cold Chain Manager Characteristics in Semarang City Health Centers

Variable	Frequency	Percentage (%)
Age		
≤ 35 years old	1	20,0
> 35 years old	4	80,0
Level of education		
Graduated DIII	3	60,0
Graduated DIV	2	40,0
Training experience		
Once	1	20,0
No/Not yet	4	80,0

Primary data, 2021.

From table 1, it is found that the age of the puskesmas staff who administers the vaccine is 35 years as much as 80% and the rest is 35 years. A person's productivity at work is strongly influenced by age. Generally, a person of productive age will be able to work diligently. Even though the age of the officers is quite varied, this does not really affect the management of vaccines at the Puskesmas. Education also plays an important role in this research, in administering vaccines, higher education is needed. In this study, the respondents had taken DIII and DIV education. Education is not significantly related to the performance of vaccination officers. Respondents who have attended training related to vaccine management are 1 respondent or 20.0% and those who have never or have not attended training related to vaccine management are 4 respondents or 80.0%. Respondents who have attended training related to vaccine management are UL/LIL training. By increasing the ability of officers in vaccine management, it will increase the knowledge of officers in vaccine management, so that vaccine storage is

according to standards and can prevent follow-up events after immunization. Participation and duration of vaccine management training will affect the increase in capacity and expertise in vaccine management.

Table 2. Distribution of Vaccine Storage Facilities

Variable	Frequency	Percentage (%)
Vaccine refrigerator		
1. According to SNI & PQS from WHO	2	40%
2. Not suitable	3	60%
Refrigerator models		
1. Open top		
2. Open front	4	80%
	1	20%
Refrigerator system		
1. Compression	2	40%
2. Absorption	3	60%
Vaccine freezer		
1. According to SNI & PQS from WHO	1	20%
2. Not suitable	4	80%
Freezer models		
1. Open top	2	40%
2. Open front	3	60%
System freezer		
1. Compression	1	20%
2. Absorption	4	80%
Tape attached to the thermostat		
1. Yes	3	60%
2. No	2	40%
Cool pack		
1. Available	5	100%

2. None	0	0%
Cold pack/ice pack		
1. Available	5	100%
None	0	0%
Dry ice		
1. Available	4	80%
2. None	1	20%
Temperature monitor		
1. Available		
2. None	5	100%
	0	0%
Continuous temperature recorder		
1. Available	4	80%
2. None	1	20%
Freeze tag/watch		
1. Available	4	80%
2. None	1	20%
VVM		
1. Available	5	100%
2. None	0	0%
Temperature logging graph		
1. Available	5	100%
2. None	0	0%

Primary data, 2021.

Results Based on the research, 2 respondents stated that in their puskesmas there was a vaccine refrigerator according to the Indonesian National Standard (SNI) and Performance Quality and Safety (PQS) from the WHO. For the Vaccine Refrigerator model, 4 respondents stated that they had an open top model, while 1 respondent stated that they had a front open model. A total of 2 respondents used the Absorption system on the Vaccine Refrigerator, 3 respondents used the Compression system.

A total of 4 respondents stated that in their puskesmas there was no vaccine freezer according to SNI and PQS from WHO. For the Vaccine freezer model, 2 respondents stated that they had an open top model, while 3 respondents stated that they did not have a front or top open model. A total of 1 respondent uses a compression system in the Vaccine freezer and 4 respondents does not have a system. A total of 3 respondents stated that the tape on the vaccine refrigerator/freezer thermostat was installed.

All respondents stated that there are cold packs/liquid cold boxes near the evaporator and cold packs/ice packs/frozen cold boxes in their puskesmas. As many as 4 respondents stated that in their puskesmas there was dry ice in the cool pack. Cool pack (cold liquid box) is a rectangular plastic container filled with water and then cooled in the vaccine refrigerator at a temperature of 2° to 8° C for a minimum of 12 hours (near the evaporator). Meanwhile, cold packs are rectangular plastic containers filled with frozen water in the freezer at a temperature of -15° C to -25° C for a

minimum of 24 hours. It is recommended that cold packs are no longer used because they are no longer recommended in immunization programs at the district/city and puskesmas levels because of the risk of causing freeze-sensitive vaccines to be damaged.

There are 4 types of temperature monitoring devices, namely analog temperature monitors, continuous temperature monitoring and recording devices, exposure to cold temperatures and VVM. Based on the results of the study, it is known that all respondents stated that there was an analog temperature monitoring device/thermometer in their health center. 4 respondents stated that in their puskesmas there is a continuous temperature monitoring and recording device. In accordance with the guidelines for cold chain management, immunization officers state that cold rooms, refrigerators, cool boxes, vaccine carriers must be equipped with a thermometer to control the temperature when carrying vaccines from the center to the province, from the province to the city and from the city to the

health center until the vaccine is brought to the Posyandu. All these cold chains temperature must be controlled with a thermometer to ensure the quality of the vaccine. Research conducted by Gebbie Prisilliya Lumentut et al at the Tuminting, Paniki Bawah and Wenang Health Centers in the management of the vaccine cold chain did not have a temperature measuring device (thermometer).

A total of 4 respondents stated that in their puskesmas there was a freeze tag/freeze watch to monitor exposure to cold temperatures for vaccines. Freeze tag is a tool used to monitor vaccines against exposure to freezing temperatures. This tool uses an electronic system by displaying a grass sign (V) or a cross (X). If the grass mark on the monitor changes to a cross, it indicates that the vaccine has been exposed to temperatures below -0°C for more than 1 hour. This study is also in accordance with the research conducted by Maksuk from the Health Polytechnic of the Health Ministry of Palembang on 14 health centers in the city of Palembang in 2011 showed that of the 14 health centers, 5 refrigerators (35.7%) where vaccines were stored in the Palembang city health centers

were not available freeze tag in the management vaccine cold chain.

All respondents stated that their puskesmas had VVM as an indicator. VVM is a heat exposure monitoring device used in immunization programs. VVM has several benefits, including giving warnings to officers when to refuse or not to use vaccines, allowing vaccines to be stored or used outside the cold chain and providing instructions on which vaccines should be distributed or used first. All respondents stated that there is a graph of temperature recording in their puskesmas.

Table 3 Distribution of Daily Vaccine Cold Chain Equipment Maintenance

Variable	Frequency	Percentage
Checking the temperature with a digital thermometer/measuring device every morning and evening including holidays		
1. Yes	4	80%
2. No	1	20%
Occurring frost and checking the thickness of the frost? If the thickness is more than 0.5 cm, is defrosting done immediately?		
1. Yes	4	80%
2. No	1	20%
Is there liquid in the refrigerator vaccine? Immediately cleaned/discarded?	5	100%
1. Yes	0	0%
2. No		

Is it recorded directly after checking the temperature on the thermometer or temperature monitor on the temperature recording card every morning and evening?

1. Yes
2. No

5	100%
0	0%

Primary data, 2021.

According to a review of the AEFI report by the Vaccine Safety Committee, Institute of Medicine (IOM) USA, it was stated that most of the most common AEFI incidents were the result of errors in procedures and implementation techniques. So far, there are still many health workers who think that if there is a cooler then the vaccine is safe, some even think that the colder the vaccine the better. But some vaccines are also not resistant to freezing, and can even be damaged permanently in a shorter time than when the vaccine is exposed to heat. Therefore, the distribution of vaccines is known as the cold chain. Before being sent by land or air transportation, vaccines are stored in cold boxes. The process is a long way, because the quality of the vaccine must be maintained from the production site to the smallest health unit (puskesmas)

in remote parts of the country. At the provincial and district levels, the cold box is in the form of a freezer or refrigerator. Meanwhile, at the community health center or health units in remote areas, they are already using anti-heat thermos. The application of these procedures to minimize the risk of damage to the vaccine. The problem often faced by health workers is when vaccine distribution reaches posyandu in remote areas. Unfavorable conditions often undermine the quality of vaccines.

Based on the results of the study, it was found that 4 respondents stated that checking the temperature with a digital thermometer/measuring device every morning and evening, including holidays at their health center. 4 respondents stated that there was frost and checked the thickness of the ice and if the thickness was more than 0.5 cm, defrosting was immediately carried out. All respondents stated that at their puskesmas there was liquid in the refrigerator vaccine (1 of them were immediately cleaned or disposed of, while the other 4 had no information). Of all respondents stated that at the puskesmas

they recorded directly after checking the temperature on the thermometer or temperature monitor on the temperature recording card every morning and evening.

Conclusion

From the results of the study, it was found that there were more respondents who had never received cold chain management training than those who had attended training. To increase the knowledge and skills of immunization officers, it is necessary to conduct training in accordance with the training module for immunization officers. By increasing the ability of officers in vaccine management, it will increase the knowledge of officers in vaccine management, so that vaccine storage is according to standards and can prevent follow-up events after immunization. Some health centers have vaccine refrigerators and freezers that are not in accordance with SNI PQS from WHO. It is hoped that all are in accordance with SNI and PQS from WHO so that the vaccines that are brought have conditions that remain of the same quality as in their initial conditions.

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Parents' Behaviour in Storytelling and Attaining Information of Child Growth and Development

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Abstract

Early childhood is a critical period for the development of both the physical and mental of an individual. At this age, the growth of a child needs to be monitored so parents can provide correct treatment to their child. This paper depicts parents' behaviour in accessing information regarding their preschool children's growth and development and in boosting their storytelling activities as media to support literacy. This claim was revealed from a study because the prevalence of stunting and malnutrition remains high in recent years. The study applied two phases to gain its data, first using questionnaires involving 51 respondents from an urban area, then continuing with focus group discussion to get more profound evidence. The results indicated that parents are close to storytelling activities with their children. They also believe that literacy on child growth and development is essential. However, the finding shows that the parents tend to use social media as the source of information and storytelling activities are not related to children's growth and development. These findings provide preliminary support for policymakers to provide sufficient information through various media. The results also offer that fact storytelling can be used as media to educate parents and children regarding child development.

Keywords: *storytelling*, child growth and development, health literacy media, preschool age

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Introduction

Early childhood is a critical period for the development of both the physical and mental of an individual. At this age, the growth of a child needs to be monitored so parents can provide correct treatment to their child. Besides, sufficient nutrition must be applied to prevent the child from malnutrition (Inten & Permatasari, 2019). Nutrition even also give an impact on the development of a child's brain and behaviour, ability to be productive, and endurance of infectious disease (Sulistyoningsih, 2011).

In Indonesia, issues on nutrition burden are not only regarding malnutrition but also obesity. The prevalence of stunting remains stagnant in the last decade. Based on *Riset Kesehatan Dasar* (national research on basic health standard) the number of stunting is on 30,8 per cent in 2018 (Badan Penelitian dan Pengembangan Kesehatan RI, 2018). This condition shows an indication that parents may not understand the importance of monitoring the growth and development of their children. Therefore, literacy of a child's growth and development is essential for parents, so that they can fulfil their child basic needs.

Among many media provides by the authorities, public health practitioners use many media to promote health issues preventively. Health promotion media is all kinds of efforts or tools created by a communicator to promote health issues (through prints, electronic, or billboards) in order to make the targeted audience changing into positive behaviour (Jatmika et al., 2019). The existing media today is getting varied and one of which is storytelling

which has proven effective to transfer knowledge from one to another (Prasetyo, 2018).

Storytelling is essential for humans especially children as they can learn a lot of things through their imagination from stories. Thus, stories are an inescapable part of our early learning and development (Gitner, 2015). In every story, a child has the opportunity to explore new things such as language, colours, and anything related to their life. Moreover, storytelling makes parents get closer to their children (Adara, 2020). However, there are no research claims that storytelling is useful for parents as well, because basically when parents tell a story about a new thing, they also learn something that they do not know before, including a child's growth and development.

Nowadays, parents have many media to access information regarding parenting. The information even comes sporadically through their communities or social media. Due to the lack of digital literacy, parents may directly believe in the information and even they may get misinformation. Therefore, this research aims to capture parents' behaviour in an urban area to get information about child growth and development and how storytelling activities in their family can be media to get literate on things.

Method

As a descriptive qualitative study, this research involves 51 respondents and three experts. Data is taken from questioners which cover topics of child's growth and development and storytelling. The questioner listed in Google form and shared with respondents in a week

through WhatsApp groups. The respondents we chose under two categories which are Semarang city inhabitant and as a parent of a child or children age three to five years old. The results of the questioner are then disseminated in focus group discussion, which involved not only respondents' representatives but also experts, a storyteller, a paediatric nurse, and a literature lecturer.

The characteristics of the respondents are female 86% male 14%, their ethnicities are mostly Javanese and only one Sundanese. Their age range is 22 to 44 years old and 48 of them are Muslim, two Catholics, and one Cristian. They come from various professions and nine of them are housewives.

Result and Discussion

This study found that most parents confessed that they understood child growth and development, only 6% of them doubt it. The proportion of respondents who control their children's growth and development are 19% less than 8 times in a year, 30% 8 to 10 times per year, and 41% control their children more than 10 times in a year. The observation covers mental-emotional, motoric, language, social and early detection of autism. Regarding the place to check the growth, parents prefer *Posyandu* (post of integrated service), doctor, midwife, *Puskesmas* (community-based public health service), hospitals, and most of them independently conduct self-checking. The interesting part is that respondents consider social media as a reliable source regarding a

child's growth and development as represented in Figure 1.

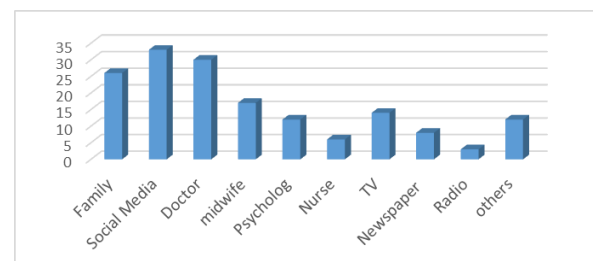


Figure 1. Source of information

While the platform of source information is mostly from social media in form of infographics and video. Parents also prefer to choose YouTube as a source of information. Only a handful of respondents refer to the billboard as their source of information. The detail preference can be in Figure 2.

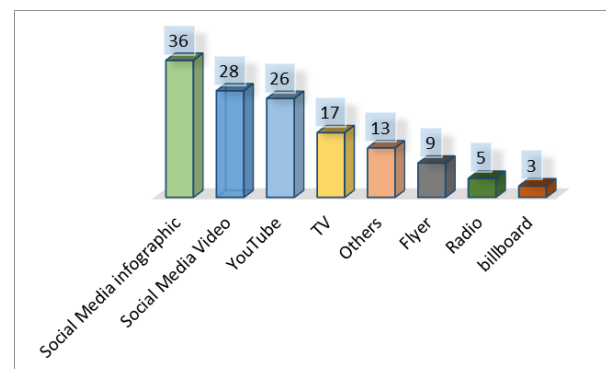


Figure 2. Platform of information

Considering the activity of storytelling, the story around children's daily life or parents reading a storybook. Most of the parents confess that they often have storytelling activities and only 14% sometimes do the activities. While the timing of storytelling, 49% of parents experience it every time and only 37 % every bedtime. How about the topic of the story? Mostly related to

child's feelings and about TV shows or YouTube videos.

Parents are also familiar with storybook reading, yet only half of them do it at any time or during bedtime. The rest of them sometimes or rare reading storybooks for their children. Figure 4 depicts the proportion of parents who has storybook reading behaviours.

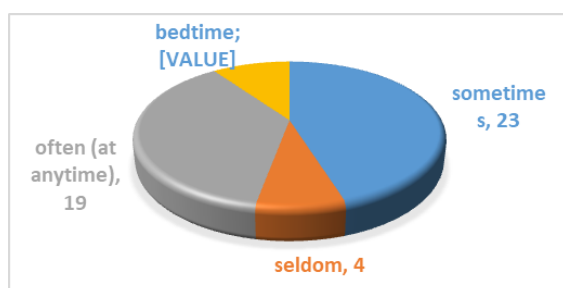


Figure 3. Time for Reading Storybook

Those who read a storybook, commonly familiar with fable, fairy-tale, parts of the body, religious practice. However, none of them mentions books related to child growth and development. When the question specifically as about this topic, only 39 % of them believe that they have read such a related book, but two-third of them did not remember the title of the book. Details regarding the percentage of parents who found books related to child growth and development as in Figure 4.

During the focus group discussion, the expert appreciated the responses of the respondents in order to check their children growth and

development regularly even in pandemic times. However, for several criteria, parents must consult clinicians or psychologists such as the use of the Denver II test for measuring child language acquisition. The expert also mentioned that *Posyandu* or community integrated service is a recommended place to support parents in observing their children's growth, monthly. Different from the growth, the development of the child can be measured every three to six months by checking the function of body parts or cells, as in language, cognition, or motoric. This observation typically by using *KPSP (Kuesioner Pra Skrinning Perkembangan)* or questioner for pre-screening development which can be operated by preschool teachers, parents, or volunteers of *Posyandu*. When the result is atypical or delay, parents can have appropriate treatment with support from related experts.



Figure 4. Respondent opinion over child-development-themed book

In terms of storytelling, the expert suggested that parents should see things from their children's perspectives. Children like to play and copy what

people do, therefore providing such a fun environment will enrich children with many experiences. Forcing a child to do things or learn from a story may not be interesting for them. When we understand a child's perspective, we can use storytelling as media to deliver certain messages unconsciously. Storytelling stimulates children's imagination and encourages them to create things. Apart from storytelling, reading aloud is necessary for parents to make children copy and internalize certain terms in their brains. Parents also have to pick appropriate books for their children based on their age and needs. As an illustration, Black-white book for an infant, book with short and simple words for preschool, and so forth.

The storyteller also mentioned that having virtuous techniques in sharing a story with children make children more excited to get involved in storytelling. Every child has a specific character and preference to do any activities. However as long as an activity has a 'play' factor, then no child will refuse to get engaged. Children like storytelling as it has a play factor. Parents have to pick which story is appropriate for them based on their age and their level of development. Video and gadgets may be alternatives for them to play, but there will be no emotional bonding with their parents. A book can be media to tell a story. Select books not only for their pictures or artistic features but also for the content. Without a book, both parents and

children can share any story. Listening activities can create confidence as well as imagination in a child. Drawing also can be media to tell a story, particularly when parents want to deliver a message regarding child growth and development. Storytelling basically educates children without preaching to them. It literate change behaviour and motivate children to do certain things as parent's expectation.

Conclusion

In an urban area, despite the disadvantaged family, parents typically are well educated and digitally literate. They tend to have big opportunities to get access to information. For parents with preschool children, parenting becomes easy as they are close to internet access. They become cyberchondriac, as everything consults to the internet, including issues on child growth and development.

The authority has provided a health care system, not only curative but also preventive. They create various media to promote public health. In terms of informing public with child growth and development, the government has published public service announcements using many media as on TV, radio, social media, even billboard. However, there is no data regarding how parents usually catch information about child growth and development. There is no data as well regarding their behaviour in doing storytelling activities. This study gives data on how parents regularly have storytelling moments with their children. They also realise that observing their child growth and development is essential.

Their behaviour in accessing information become a starting point for policymakers in designing more media from reliable sources. This condition is based on the result that parents in the urban area get parenting information from family or social media. The parenting of their parents of course different from parenting today (for their child). Besides, information from social media is not always correct if it is not from reliable sources. Therefore, information on child growth and development needs to be updated using various media. The findings of this study also provide fact storytelling can be used as one of the media to educate both parents and children regarding child development.

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