

# The impact of using acupressure wristband on PC 6 point to reduce nausea and vomiting during pregnancy

*By Marliana Rahma*

## ARTICLE INFORMATION

Received: February, 13, 2024

Revised: March, 23, 2024

Available online: March, 24, 2024

at : <https://ejournal.malahayati.ac.id/index.php/minh>

## The impact of using acupressure wristband on PC 6 point to reduce nausea and vomiting during pregnancy

Marliana Rahma\*, Yayuk Sri Rahayu

Program Studi Kebidanan Universitas Sehati Indonesia

Corresponding author: \*E-mail: [marlianarahma.s3.23@gmail.com](mailto:marlianarahma.s3.23@gmail.com)

### Abstract

**Background:** Pregnancy is a physiological process, during pregnancy physiological and psychological changes or adaptations occur in pregnant women. These changes can cause discomfort, such as nausea and vomiting. Nausea and vomiting usually occur in the first trimester of pregnancy (0-12 weeks of gestation) with a prevalence of almost 80%. Pregnant women with symptoms of nausea and vomiting can experience hyperemesis gravidarum so that their nutritional intake is disrupted. One way to anticipate and treat nausea and vomiting is through acupuncture therapy, but this therapy is often feared because it requires inserting needles. So acupressure therapy is used, which is a complementary therapy that can be applied to pregnant women by applying pressure to acupuncture points to stimulate the central nervous system through the hypothalamus and limbic system thereby balancing hormones.

**Purpose:** To determine the effect of using an acupressure wristband at pericardium point 6 in reducing nausea and vomiting in pregnant women.

**Method:** The type of research used was a pre-post-test experimental design using PC 6 acupuncture points on pregnant women between 6-14 weeks of gestation who experienced nausea and vomiting as many as 30 participants. Research data was collected using the Pregnancy-Unique Quantification of Emesis and Nausea (PUQE) scoring system, which measures the severity of nausea and vomiting in pregnancy within 12 hours.

**Results:** There is a difference in the PUQE scale before and after using the acupressure wristband at point PC 6. Where before the intervention some participants experienced nausea and vomiting in the moderate NVP category (7-12), namely 15 (50.0%) and severe NVP  $\geq 13$ . 13 (43.3%). However, after intervention for the intensity of nausea and vomiting, the majority of participants were in the mild NVP category  $\leq 6$ , 14 (46.7%). This shows that using the PC 6 acupuncture wristband can relieve nausea and vomiting experienced by pregnant women.

**Conclusion:** Acupressure wristband are effective in preventing nausea and vomiting experienced by pregnant women.

**Keywords:** Acupressure Wristband; Nausea; Pericardium Point (PC 6); Pregnant Women; Vomiting.

The impact of using acupressure wristband on PC 6 point to reduce nausea and vomiting during pregnancy

## INTRODUCTION

Pregnancy is a physiological process, during pregnancy physiological and psychological changes or adaptations occur in pregnant women. These changes can cause discomfort, such as nausea and vomiting. Nausea and vomiting usually occur in the first trimester of pregnancy (0-12 weeks of gestation) with a prevalence of almost 80%. The occurrence of this condition is caused by two things, namely physical or psychological. Physical factors such as hormonal changes during pregnancy where hormonal imbalances can cause nausea and vomiting in pregnant women. Psychological factors include anxiety in pregnant women (Ria, & Manek, 2022; Bjelica, Cetkovic, Trninic-Pjevic, & Mladenovic-Segeci, 2018).

Many people think that nausea and vomiting that occurs in pregnant women is normal, so it is often ignored (Kusumaningsih, 2022). However, excessive nausea and vomiting can result in babies having low birth weight and experiencing premature birth. If left untreated, the prognosis will be poor (Ebrahimi, Maltepe, & Einarson, 2010). Pregnant women with symptoms of nausea and vomiting can experience hyperemesis gravidarum so that their nutritional intake is disrupted. Malnutrition in pregnant women increases the risk of chronic energy deficiency and anemia. The mother's prognosis is poor because this condition can cause bleeding and even death during childbirth. Apart from that, the prognosis of the fetus is also disturbed because the growth and development of the fetus is also disturbed, leading to stunting (Sari, & Wahyuningsih, 2021; Edowai, Rantetampang, Msen, & Mallongi, 2018; Sharma, Shastri, & Sharma, 2016).

One effort to anticipate and overcome nausea and vomiting is through acupuncture therapy. Acupuncture is an alternative therapy with the insertion of needles into certain anatomical points of the body for treatment. One of the acupuncture points that is effective for reducing nausea and vomiting is Pericardium Point 6 (PC 6) which is located three fingers above the inner wrist. Acupuncture therapy involves the use of needles and should only be performed by experts (acupuncturists). Pressure on this point can be done with two pressures, namely directly and using a wrist wristband. Pressure on the pericardium point 6 can increase the release of beta-endorphin in the pituitary and adrenocorticotrophic

(ACTH) along the chemoreceptor trigger zone (CTZ) which can inhibit the center of vomiting, control intestinal function and dynamic circulation by stimulating meridian pathways in the body (Ebrahimi et al., 2010; Roehrich, 2016).

The challenge and disadvantage of acupuncture therapists is that some people are afraid of acupuncture needles. So it is necessary to use innovative acupuncture wristband that are friendlier to patients to overcome this problem (Yang, Jiang, Chen, Sun, Chen, Zheng, & Liang, 2019; Liu, Zhao, Qiao, Wang, He, Zhao, & Jiang, 2022).

One effort that pregnant women can make to relieve nausea and vomiting during pregnancy is through acupressure therapy. Acupressure is a complementary therapy that can be applied to pregnant women by applying pressure to acupuncture points to stimulate the central nervous system through the hypothalamus and limbic system thereby balancing hormones (Hou, Hsu, Lin, Tang, Cheng, & Hsieh, 2015; Smith, Armour, & Dahlen, 2017). One of the acupressure points that is scientifically proven to reduce nausea and vomiting is the pericardium point (PC 6) (Yılmaz, & Yılmaz, 2023). This point sends signals to the heart organ, which physiologically can balance hormones, reduce nausea, and trigger relaxation. The location of this point is on the inner arm, exactly 3 fingers from the inner wrist. PC 6 can be stimulated continuously in pregnant women without side effects, and there is no concept of overdose in acupressure (Brettner, Janitza, Prüll, Weninger, Mansmann, Küchenhoff, & von Dossow, 2016).

In this research, researchers made wristband independently by carrying out several experiments until they finally got a suitable design. This research has also obtained an intellectual property rights certificate from the Directorate General of Intellectual Property, Ministry of Law and Human Rights of the Republic of Indonesia.

## RESEARCH METHOD

The type of research used was a pre-post-test experimental design using PC 6 acupuncture points on pregnant women between 6-14 weeks of gestation who experienced nausea and vomiting as many as 50 participants. Research data was collected using the Pregnancy-Unique Quantification of Emesis and

Marliana Rahma\*, Yayuk Sri Rahayu

<sup>1</sup>Program Studi Kebidanan Universitas Sehati Indonesia  
Corresponding author: \*E-mail: marlianarahma.s3.23@gmail.com

DOI: <https://doi.org/10.33024/minh.v7i1.236>

The impact of using acupressure wristband on PC 6 point to reduce nausea and vomiting during pregnancy

**Nausea (PUQE) scoring system**, which measures the severity of nausea and vomiting in pregnancy within 12 hours.

The basic concept of PC 6 point acupuncture scientifically addresses physical and psychological changes in pregnant women, reduces nausea, vomiting and anxiety, ensures proper nutritional intake during the first 1000 days of life, and prevents disruption of fetal growth and development which results in stunting.

This research was conducted in Karawang because there are not many acupuncturists and there are still many people who are afraid of acupuncture

needles. The research process is that the PC 6 point is stimulated with a button (replacement for a needle) sewn onto a rubber band. The wristband is then worn like a regular wristband, making it easier for pregnant women to carry out their daily activities. After one week of intervention, it was continued with an evaluation to determine the difference in the nausea scale before and after using the acupressure band at the PC 6 point.

This research received permission from the Research Ethics Committee of Sehati Indonesia University with number 005/USINDO-SHT/III/2024.

## RESEARCH RESULTS

**Table 1. Participant Demographic Data (N=30)**

Variables	Results
<b>Age (Mean±SD)(Range)(Year)</b>	(25.67±5.486)(18-38)
<b>Employment Status (n/%)</b>	
Employee	14/46.7
Unemployment	16/53.3
<b>Education Levels (n/%)</b>	
High	10/33.3
Low	20/66.7
<b>Gestational Age (n/%)</b>	
≤ 8 weeks	19/63.3
>8 weeks	11/36.7

Based on the table above, it is known that the average age of participants is 25.67 with a standard deviation of 5.486, most participant's unemployment or housewives 16 (53.3%). Most of the participants' last education was at a low level (Primary School/Junior High School) as many as 20 (66.7%), while the majority of participants' gestational age were ≤ 8 weeks as many as 19 (63.3%).

**Marliana Rahma\*, Yayuk Sri Rahayu**

Program Studi Kebidanan Universitas Sehati Indonesia  
Corresponding author: \*E-mail: marlianarahma.s3.23@gmail.com

DOI: <https://doi.org/10.33024/minh.v7i1.236>

The impact of using acupressure wristband on PC 6 point to reduce nausea and vomiting during pregnancy

**Table.2 Pregnancy-Unique Quantification of Emesis and Nausea (PUQE) Measurement Instrument**

(Koren, Boskovic, Hard, Maltepe, Navioz, & Einarson, 2002).

**3 PUQE form:**  
**Pregnancy-Unique Quantification of Emesis and Nausea**  
 Circle the answer that suit the best your situation for the last 24 hours.

1. On average in a day, for how long do you feel nauseated or sick to your stomach?

> 6 hours	4-6 hours	2-3 hours	≤1 hour	Not at all
5 points	4 points	3 points	2 point	1 points

2. On average in a day, how many times do you vomit or throw up?

≥7 times	5-6 times	3-4 times	1-2 times	Not at all
5 points	4 points	3 points	2 point	1 point

3. On average in a day, how many times have you had retching or dry heaves without bringing anything up?

≥7 times	5-6 times	3-4 times	1-2 times	Not at all
5 points	4 points	3 points	2 point	1 point

Total score (sum of replies to 1, 2, and 3): mild NVP ≤6; moderate NVP 7-12; severe NVP ≥13.

Quality of life question:  
 On a scale of 0 to 10, how would you rate your well-being:  
 0 (worst possible) 10 (As good as you felt before pregnancy)

**Table 3. Pre-Post Measurement Results (N=30)**

Variables	Before intervention (n/%)	After intervention (n/%)
Mild NVP ≤6	2/6.7	14/46.7
Moderate NVP (7-12)	15/50.0	11/36.7
Severe NVP ≥13	13/43.3	5/16.6

The table above shows the results before and after intervention using PC 6 acupuncture points, where before the intervention some participants experienced nausea and vomiting in the moderate NVP (7-12) category, 15 (50.0%) and severe NVP ≥13, 13 (43.3%). However, after intervention for the intensity of nausea and vomiting, the majority of participants were in the mild NVP ≤6 category, 14 (46.7%). This shows that using the PC 6 acupuncture wristband can relieve nausea and vomiting experienced by pregnant women.

**Marliana Rahma\*, Yayuk Sri Rahayu**

**1** Program Studi Kebidanan Universitas Sehati Indonesia  
 Corresponding author: \*E-mail: marliannahma.s3.23@gmail.com

DOI: <https://doi.org/10.33024/minh.v7i1.236>



The impact of using acupressure wristband on PC 6 point to reduce nausea and vomiting during pregnancy



**Figure the Location of Acupressure Point PC 6 is Three Fingers from the Wrist**



The image above is to find the PC 6 point using your three fingers from the wrist and aiming at the center of the arm along the line. Pressing this point for about a minute can help reduce high blood pressure, relieve nausea and vomiting.

**Table 4. Comparison of Acupuncture with Acupressure Wristband**

Acupuncture	Acupressure Wristband
Uses needles	Uses buttons/not sharp
Must be done by a therapist/acupuncturist	can be done independently
Requires finding a therapist and allocating time for therapy	Worn like a Wristband, does not disrupt the mother's activities

The table above shows the differences between acupuncture needles and acupressure wristband. Using acupuncture needles must be done by a therapist/acupuncturist, so you need to find a therapist and allocate time for therapy. Meanwhile, acupressure only uses buttons/is not sharp, can be done independently, is worn like a wristband, and does not interfere with pregnant women's activities.

**Table 5. Acupressure Wristband Usae Guidelines**

Steps of Activities	Figure
Determine the location of the acupuncture point, which is 3 fingers (2 cun) from the inner wrist.	
The name of the acupuncture point is Pericardium 6 (PC 6).	

**Marliana Rahma\*, Yayuk Sri Rahayu**

Program Studi Kebidanan Universitas Sehati Indonesia  
Corresponding author: \*E-mail: marlianarahma.s3.23@gmail.com

DOI: <https://doi.org/10.33024/minh.v7i1.236>

The impact of using acupressure wristband on PC 6 point to reduce nausea and vomiting during pregnancy

Wear the acupuncture wristband with the button on the inner side, applying pressure to the PC 6 point.



The acupressure wristband is ready to be worn. It can be used for every day or even throughout the day. Without any side effects.



**Marliana Rahma\*, Yayuk Sri Rahayu**

Program Studi Kebidanan Universitas Sehati Indonesia  
Corresponding author: \*E-mail: [marlianarahma.s3.23@gmail.com](mailto:marlianarahma.s3.23@gmail.com)

DOI: <https://doi.org/10.33024/minh.v7i1.236>

The impact of using acupressure wristband on PC 6 point to reduce nausea and vomiting during pregnancy

## DISCUSSION

Research showing the benefits of acupressure on the PC 6 point has been widely discussed. However, in this study, stimulation of the PC point was carried out using an acupressure wristband. Another method besides acupressure is acupuncture, which involves the use of sterile acupuncture needles. However, not all mothers are willing to undergo therapy using injection needles, so acupressure (acupuncture without needles) could be a potential alternative solution.

Stimulation of the Acupressure Wristband at the PC 6 point causes blood vessels to dilate (vasodilation) and inflammation. This results in significant replication of new healthy cells and the process of phagocytosis, where old, damaged cells are engulfed by new healthy cells. This phenomenon is known as cell regeneration. In addition, pressure on acupuncture points signals the limbic system to release endorphins, hormones that cause relaxation and increase antibody production. The benefits of applying pressure to the PC 6 point include reducing anxiety, relieving nausea and vomiting, increasing immunity, and encouraging cell regeneration (Gilbert, Farish, Bergland, Conaway, Hance, Ketcham, & Spry, 2017).

The research was conducted on 30 first trimester pregnant women who experienced nausea or vomiting. The severity of nausea and vomiting was measured using the PUQE scale. This research uses a pretest and posttest design. Pregnant women who experience nausea and vomiting have their PUQE scale measured and then given acupressure intervention at point PC 6 using an acupressure wristband for one week. The nausea and vomiting scale was then re-evaluated after using the acupressure wristband. The results showed that there was a significant difference on the PUQE scale before and after using the Acupressure Wristband at point PC 6.

In another study, it was found that the use of a P6 acupressure wristband in patients undergoing laparoscopic cholecystectomy could reduce excessive nausea 2 hours after surgery and the incidence of nausea 2-6 hours after surgery. However, when compared with placebo, the results of using acupressure wristband are clinically less effective in reducing postoperative vomiting, the need for antiemetic drugs, and reducing pain, anxiety, or the

need for analgesic drugs because the p value is  $> 0.05$  (Sahin, Iyigun, & Bisa, 2018). Research that compared the acupressure wristband group at neiguan points and placebo also stated that acupressure therapy at neiguan points was no more effective than athermic treatment. The use of acupressure at the neiguan point can be used as additional therapy for treating nausea and vomiting in pregnant women (Adlan, Chooi, & Mat Adenan, 2017). Previous research also showed the effectiveness of applying point 6 pericardium acupressure and accompanied by giving citrus aromatherapy inhalation if the mother felt nauseous and vomited for 4 consecutive days (Sulistiarini, Widyawati, & Rahayu, 2018).

However, several studies also state the effectiveness of using acupressure in pregnant women to prevent nausea and vomiting. Other research states that the application of P6 acupressure is effective in preventing vomiting and increasing patient comfort (Ünülü, & Kaya, 2018). Research conducted without comparison showed that there was an effect of giving acupressure on reducing vomiting, nausea in first trimester pregnant women at the Sananwetan Community Health Center, Blitar City (Reniyas, 2019). Supported by research that obtained the results of the Independent T-test to differentiate the degree of nausea and vomiting using the PUQE score, where after acupressure was carried out in the intervention group and the control group, the value  $p=0.010$  and the value  $\alpha=0.05$  means  $p<\alpha$ , meaning there is significant difference in PUQE scores between the intervention group and the control group after acupressure was carried out. So in this study acupressure was considered effective in reducing nausea and vomiting (Handayani, & Khairiyatul, 2019).

Supported by the results of previous research, it was found that complementary acupressure therapy was effective in treating emesis gravidarum in pregnant women in the first trimester at the Gambirsari Community Health Center, with Asymp.sig results. (2-tailed) obtained a value of  $0.005 < 0.05$ , this means there is a significant difference between the post-test results and the pre-test results. This means that acupressure can reduce the mother's total RINVR score quite significantly (Widyastuti, Rumiayati, & Widyastutik, 2019).

Marliana Rahma\*, Yayuk Sri Rahayu

1 Program Studi Kebidanan Universitas Sehati Indonesia  
Corresponding author: \*E-mail: marlianarahma.s3.23@gmail.com

DOI: <https://doi.org/10.33024/minh.v7i1.236>



The impact of using acupressure wristband on PC 6 point to reduce nausea and vomiting during pregnancy

Based on the results of this study, researchers can state that the use of acupressure wristband is effective in reducing nausea and vomiting, besides that it can also provide a sense of calm because it does not use drugs, thereby minimizing side effects in the treatment of nausea and vomiting that occur in pregnant women.

## CONCLUSION

Acupressure wristband are effective for use in efforts to prevent nausea and vomiting experienced by pregnant women.

## REFERECES

- Adlan, A. S., Chooi, K. Y., & Mat Adenan, N. A. (2017). Acupressure as adjuvant treatment for the inpatient management of nausea and vomiting in early pregnancy: A double-blind randomized controlled trial. *Journal of Obstetrics and Gynaecology Research*, 43(4), 662-668.
- Bjelica, A., Cetkovic, N., Trninic-Pjevic, A., & Mladenovic-Segedi, L. (2018). The phenomenon of pregnancy—A psychological view. *Ginekologia polska*, 89(2), 102-106.
- Brettner, F., Janitza, S., Prüll, K., Weninger, E., Mansmann, U., Küchenhoff, H. & von Dossow, V. (2016). Gender-specific differences in low-dose haloperidol response for prevention of postoperative nausea and vomiting: a register-based cohort study. *PLoS one*, 11(1), e0146746.
- Ebrahimi, N., Maltepe, C., & Einarson, A. (2010). Optimal management of nausea and vomiting of pregnancy. *International journal of women's health*, 241-248.
- Edowai, N., Rantetampang, A. L., Msen, Y., Mallongi, A. (2018). Factors influencing with malnutrition pregnant at Tigi district Deiyai regency. *International Journal of Science & Healthcare Research*, 3(4), 245-256.
- Gilbert, R. T., Farish, N., Bergland, E., Conaway, M., Hance, J., Ketcham, S. & Spry, A. (2017). The use of short-term acupressure to prevent long-term PONV: was this a case of too little, too late?. *Journal of PeriAnesthesia Nursing*, 32(5), 445-452.
- Handayani, N., & Khairiyatul, R. K. A. (2019). Pengaruh Akupresur Terhadap Penurunan Mual Dan Muntah Pada Ibu Hamil Di Praktek Mandiri Bidan Sidoarjo: indonesia. *Embrio*, 11(2), 102-109.
- Hou, P. W., Hsu, H. C., Lin, Y. W., Tang, N. Y., Cheng, C. Y., & Hsieh, C. L. (2015). The history, mechanism, and clinical application of auricular therapy in traditional Chinese medicine. *Evidence-based complementary and alternative medicine*, 2015.
- Koren, G., Boskovic, R., Hard, M., Maltepe, C., Navioz, Y., & Einarson, A. (2002). Motherisk—PUQE (pregnancy-unique quantification of emesis and nausea) scoring system for nausea and vomiting of pregnancy. *American journal of obstetrics and gynecology*, 186(5), S228-S231.
- Kusumaningsih, M. R. (2022). Akupressure Sebagai Terapi Mual Muntah Pada Ibu Hamil. *Scientific Proceedings of Islamic and Complementary Medicine*, 1(1), 29-40.
- Liu, C., Zhao, G., Qiao, D., Wang, L., He, Y., Zhao, M. & Jiang, E. (2022). Emerging progress in nausea and vomiting of pregnancy and hyperemesis gravidarum: challenges and opportunities. *Frontiers in Medicine*, 8, 809270.
- Reniyas, N. N. (2020). Pengaruh Titik Nei Guan (P6) Terhadap Pengurangan Keluhan Morning Sickness Pada Ibu Hamil Trimester I Di Puskesmas Sananwetan Blitar. *JuKe (Jurnal Kesehatan)*, 3(1).
- Ria, M. B., & Manek, B. D. (2022). The Effectiveness of Acupressure Points PC-6 and SP-3 on the Hyperemesis Gravidarum in Pregnant Women. *Journal of Maternal and Child Health*, 7(2), 138-147.
- Roehrich, N. C. (2016). Decreasing Post-Operative Nausea and Vomiting Through Stimulation of the Pericardium-6 Acupoint.
- Sahin, S. Y., Iyigun, E., & Can, M. F. (2018). Effect of acupressure application to the P6 acupoint before

**Marliana Rahma\*, Yayuk Sri Rahayu**

**1**rogram Studi Kebidanan Universitas Sehati Indonesia  
Corresponding author: \*E-mail: marliannahma.s3.23@gmail.com

DOI: <https://doi.org/10.33024/minh.v7i1.236>

## The impact of using acupressure wristband on PC 6 point to reduce nausea and vomiting during pregnancy

- laparoscopic cholecystectomy on postoperative nausea-vomiting: A randomized controlled clinical study. *International journal of nursing studies*, 87, 40-48.
- Sari, D. I., & Wahyuningsih, S. (2021). The Effectiveness of Acupressure Therapy on Decreasing Complaints of Nausea and Vomiting in Pregnant Women.
- Sharma, D., Shastri, S., & Sharma, P. (2016). Intrauterine growth restriction: antenatal and postnatal aspects. *Clinical medicine insights: pediatrics*, 10, CMPed-S40070.
- Smith, C. A., Armour, M., & Dahlen, H. G. (2017). Acupuncture or acupressure for induction of labour. *Cochrane Database of Systematic Reviews*, (10).
- Sulistiarini, U., Widyawati, M. N., & Rahayu, D. L. (2018). Studi literatur: acupressure pericardium dan aromatherapy citrus untuk mengurangi mual muntah ibu hamil. *Jurnal kebidanan*, 8(2), 146-156.
- Ünülü, M., & Kaya, N. (2018). The effect of Neiguan point (P6) acupressure with wristband on postoperative nausea, vomiting, and comfort level: a randomized controlled study. *Journal of PeriAnesthesia Nursing*, 33(6), 915-927.
- Widyastuti, D. E., Rumiya, E., & Widyastutik, D. (2019). Terapi Komplementer Akupresur Untuk Mengatasi Emesis Gravidarum Pada Ibu Hamil Trimester I Tahun 2018. *Jurnal Kebidanan Indonesia*, 10(1), 96-104.
- Yang, J., Jiang, Y., Chen, Y., Sun, M., Chen, J., Zheng, Q., & Liang, F. R. (2019). Acupressure the PC6 point for alleviating postoperative nausea and vomiting: a systematic review protocol. *Medicine*, 98(33), e16857.
- Yılmaz, M. P., & Yılmaz, İ. (2023). Effect of Acupressure at PC6 on Nausea and Vomiting During Pregnancy: a Randomized Controlled Trial. *Journal of Acupuncture and Meridian Studies*, 16(3), 89-94.

**Marliana Rahma\*, Yayuk Sri Rahayu**

**1** Program Studi Kebidanan Universitas Sehati Indonesia  
Corresponding author: \*E-mail: marlianarahma.s3.23@gmail.com

DOI: <https://doi.org/10.33024/minh.v7i1.236>

# The impact of using acupressure wristband on PC 6 point to reduce nausea and vomiting during pregnancy

---

ORIGINALITY REPORT

---

# 21%

SIMILARITY INDEX

---

## PRIMARY SOURCES

---

1	<a href="http://ejurnal.malahayati.ac.id">ejurnal.malahayati.ac.id</a> Internet	251 words — 8%
2	<a href="http://jurnal.globalhealthsciencegroup.com">jurnal.globalhealthsciencegroup.com</a> Internet	219 words — 7%
3	<a href="http://bora.uib.no">bora.uib.no</a> Internet	174 words — 5%
4	<a href="http://ejurnal.malahayati.ac.id">ejurnal.malahayati.ac.id</a> Internet	27 words — 1%
5	<a href="http://www.tandfonline.com">www.tandfonline.com</a> Internet	26 words — 1%

---

EXCLUDE QUOTES OFF

EXCLUDE BIBLIOGRAPHY ON

EXCLUDE SOURCES < 25 WORDS

EXCLUDE MATCHES < 10 WORDS