VIVA MEDIKA
Jurnal Kesehatan, Kebidanan, dan Keperawatan

Homepage: http://ejournal.uhb.ac.id/index.php/vm
P-ISSN: 1979-2026 E-ISSN: 2656-1034
DOI: 10.35960/vm.v17i2.1407

Effect of Oxytocin Massage on Changes in Oxytocin Hormone Concentration in Pregnant Women

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ABSTRACT

Background: Labour is a natural occurrence for every woman, but it may turn into a pathological condition if labour lasts too long. One non-pharmacological treatment method that is considered quite effective is oxytocin massage, which is known to stimulate labour contractions. Objective: This study aims to determine the effect of oxytocin massage on changes in oxytocin concentration of mothers in labour. Method: This study used quasi-experiment with purposive sampling technique. The number of samples was 32 people with massage actions performed on the spine using the thumb and knuckles. Data was tested using Chi Squre test, Mann Withney. Results: the study showed Oxytocin in Inpartu Kala I Latent Phase of the group that was massaged was higher than those who were not massaged although it was not significantly significant p=0.175. Significantly there is no effect of differences in Oxytocin Hormone Inpartu Kala I Active Phase (p=0.602). The concentration of oxytocin hormone in the group that was massaged in the first phase of latent labour was higher than that in the active phase, although it was not significant, p=0.076. Oxytocin concentration of the group that was not massaged inpartu Kala I Latent Phase was higher than the Active Phase although not significantly significant p=0.917. Conclusion: In the latent phase, the oxytocin concentration of the group that was massaged and not massaged had a significant difference and in the active phase there was no significant effect on the group.

Keywords: Oxytocin Massage, Oxytocin Hormone, Latent Phase, Active Phase

1. INTRODUCTION

One of the important indicators in efforts to reduce maternal mortality and infant mortality is the process of delivery assisted by health workers who have competence in the field of midwifery. In 2000, the Government of Indonesia launched the Making Pregnancy Safer (MPS) program as a continuation of the Safe Motherhood program. Activities in the MPS program are focused on key causes that are proven to contribute to the high maternal and newborn mortality rates in Indonesia. MPS aims to ensure that pregnant women, women in labor, and women in the postnatal period have access to trained health personnel (Holt-Lunstad et al., 2008).

Efforts to control the occurrence of bleeding by improving contractions and retractions and strong myometrium. Therefore, maintaining uterine contractions through manual massage or stimulating the release of oxytocin hormone is an important part of the labor process (Hidayah & Anggraini, 2018).

This oxytocin release will cause strong, continuous uterine contractions and retractions so as to accelerate the process of labor. Thus it is clear that oxytocin also plays a role in the process of labor so that treatment measures to

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stimulate the release of the hormone oxytocin are immediately implemented when the mother enters the labor phase (Irnawati & Sari, 2018).

Oxytocin is a hormone produced by the posterior lobe of the pituitary. This hormone can be administered directly through several methods, such as oral, intranasal, intramuscular, or by massage that can stimulate the release of oxytocin. One such method is oxytocin massage. Therefore, oxytocin massage is important in the uterine contraction mechanism. This mechanism involves three regulators associated with hormonal reactions and pharmacological elements in uterine contraction. The three regulators are myosin light chain kinase, calcium-calmodulin, and cAMP mediated phosphorylation (Muslimah et al., 2020).

Delivery mothers are given oxytocin massage in the hope that it can reduce the risk of prolonged partus, complications and bleeding and help maintain oxygen supply to the baby during the labor process (Ibrahim et al., 2019).

Oxytocin itself is a hormone that can increase the entry of calcium ions into intra cells. With the release of the hormone oxytocin will strengthen the bonds of actin and myosin so that uterine contractions will be stronger, in this case in accordance with the theory of oxytocin massage performed on mothers inpartu can increase uterine contractions. (Field, 2010).

The mechanism of action of Oxytocin Massage, among others, can provide tactile stimulation, stimulate the activation of the parasympathetic nervous system, stimulate the release of oxytocin, provide effects on the brain and body, reduce stress and anxiety inpartum mothers, increase social bonding, and regulate pain in the inpartum process (Field, 2010).

Puspitasari (2018) research stated that there was an effect of oxytocin massage on the frequency of hiss and the duration of hiss in laboring mothers at BPM ASRI Tuban. Supported by research (Riffa & Musfirowati, 2018) stated that there was an effect of oxytocin massage on the duration of the active phase I in laboring women at the Balangnipa Health Center, Sinjai Regency.

This study makes an important contribution to the field of maternal health by providing empirical evidence of the effectiveness of oxytocin massage in increasing the concentration of oxytocin hormone in laboring mothers. The results of this study are expected to serve as a basis for the development of more effective non-pharmacological interventions to support the labor process, as well as provide new insights for midwifery and obstetric practice.

2. METHODS

This study used Quasy experimental Design. This study was conducted to see the effect of oxytocin massage (Independent variable) on changes in oxytocin hormone concentration inpartum mothers (dependent variable).

This research was conducted at Siti Khadijah I Hospital Makassar. The research time was held on March 15, 2020 to May 13, 2020.

The population in this study were all mothers inpartu primi at Siti Khadijah I Hospital Makassar at the time of this study. Based on preliminary data obtained in October 2019, the number of mothers who were treated was 30 people with an estimate of 30 to 40 people every month. The sampling technique used in this study was purposive sampling. According to Sugiyono (2018) purposive sampling technique is a data source sampling technique with certain considerations. The Purposive Sampling technique selects a group of subjects based on characteristics. The sample in this study were all mothers who gave birth (vaginally) who met the inclusion criteria.

The research instrument used in this study was the Standard Operating Procedure for oxytocin massage, to assess primi laboring mothers who performed oxytocin massage, where the researcher directly facilitated the mother to perform oxytocin massage, and collaborated with laboratory staff in taking blood samples by taking blood samples in the arm area as much as 3 cc taken shortly after oxytocin massage was performed.

Oxytocin massage was performed for 3 minutes and could be repeated 3 times. Then the measurement of hiss (frequency and duration of

hiss) was done after 10 minutes of oxytocin massage. Measurement of hiss frequency and duration in the control group could be done after the first 30 minutes of labor progress observation and maternal oxytocin hormone examination (Field, 2014). Researchers collected data through these methods using the following criteria: Normal criteria if the oxytocin hormone concentration increases and uterine contractions are good, namely palpable hard, while abnormal criteria if there is no increase in oxytocin hormone concentration and uterine contractions are lacking. The data obtained were analyzed using univariate and bivariate analysis.

Univariate analysis is a statistical analysis technique used to analyze data from only one variable. Univariate analysis aims to describe the characteristics of the variables studied. This analysis is important to understand the basic pattern of the data before proceeding to a more complex analysis (Notoatmodjo, 2010).

This bivariate analysis is used by comparing the process between patients who get massage and those who do not get massage. Using the Man Withney test to test the hypothesis guidelines in accepting the hypothesis.

The hypothesis in this study if Ho is accepted, then oxytocin massage does not have a significant effect on the concentration of oxytocin hormone inpartum mothers, if Ha is accepted, then oxytocin massage has a significant effect on increasing the concentration of oxytocin hormone inpartum mothers.

The implementation of this research has received ethical approval with number B/027/LPPM/III/2024.

3. RESULT AND DISCUSSION

3.1 Result

Table 1. Distribution of Respondents Based on Mother's Status at Siti Khadijah I Hospital Makassar

Characteristics	Latent Phase	Active Phase	Frequency (n)	%
Ages				
20-25	4	4	8	25,0
26-30	6	8	14	43,8
31-35	5	2	7	21,9
>35	1	2	3	9,4
Education				
Low Education	12	14	26	81,3
Higher Education	4	2	6	18,8
Occupation				
Housewife	15	13	28	87,5
Civil Servant	1	3	4	12,5
Uterine Contractions				
<20 seconds	0	2	2	6,3
20-40 seconds	16	6	22	68,8
>40 seconds	0	8	8	25
Inpartu Phase				
Latent	8	8	16	50
Active	8	8	16	50
Amount			**32**	**100**

Table. 1 provides information that of the 32 respondents with age groups, most of them were between 26-30 years old, namely 14 people (43.8%), the lowest at the age of> 35 years, namely 3 people (9%), most respondents worked as housewives, namely 28 people (87.5%), and the most education was in low education, namely 26 people (87.25%) while higher education was 6 (18.75%). The length of uterine contractions of the respondents was mostly at 20-40 seconds, namely as many as 16 people (50%), while the first phase of labor of the respondents, namely the latent phase and the active phase had the same number of 16 people each (50%).

Table 2. Distribution of Respondents Based on Research Variables

Variable	n	%
Latent Phase Oxytocin Massage		
Massage	8	25
No massage	8	25
Active Phase Oxytocin Massage		

Massage	8	25
No Massage	8	25
Latent phase Hormone Oxytocin		
<350	2	12,5
350,1-400	9	56,3
400,1-**450**	4	25,0
>450	1	6,3
Hormone Oxytocin Active phase		
<350	6	37,5
350,1-400	4	25,0
400,1-450	3	18,8
>450	3	18,8
Amount		**100**

Table. 2 provides information that in the variable of oxytocin massage in the latent phase and active phase, the number of people who were massaged and not massaged were 8 people each (25%). As for the variable of oxytocin hormone in latent, most of them were in the group of 350,1-400 hormones, namely 9 people (56.3%) and the lowest in the group of >450 hormones, namely 1 person (6.3%). For the variable of oxytocin hormone in active, most of them were in the <350 hormone group, namely 6 people (37.5%) and the lowest in the 400,1-400 and >450 hormone groups, namely 3 people (18.8%) each.

Table 3. Analysis of the Average Difference in Oxytocin Hormone Concentration of Latent Phase Mothers with and without Oxytocin Massage at Siti Khadijah I Hospital, Makassar

Massage Oxytocin	**Hormone Oxytocin**		**Oxytocin Hormone Concentration Values**		**Mann Whitney test p value**
	Mean	Std. Dev	Min	Max	
Massage	389,59	41,43	348,15	431,03	0,221
No Massage	367,24	26,79	340,44	394,04	

Table. 3 provides information that for the Latent Phase in the group given the Oxytocin Massage intervention, the average oxytocin hormone concentration was 389.59 where the maximum limit reached 431.03 and the minimum limit reached 348.15. In the group that was not given the Oxytocin Massage intervention, the average oxytocin hormone concentration was 367.24 where the maximum limit reached 394.04 and the minimum limit reached 340.44. The intervention group is the group that receives the treatment or intervention being tested with the aim of determining the effect of the intervention on the measured outcome, while the control group is the group that does not receive the intervention or treatment being tested with the aim of providing a comparison base that allows researchers to determine the specific effects of the intervention. Based on the results of SPSS analysis using the Independent T-Tes Sample test, the p value is 0.221 where the value is greater than the $\alpha = 0.05$ value so that Ho is accepted. This means that there is an insignificant effect of differences in oxytocin hormone concentrations in mothers inpartu Kala I with Latent Phase at Siti Khadijah I Makassar Hospital.

Table 4. Analysis of the Average Difference in Oxytocin Hormone Concentration of Active Phase Mothers with and without Oxytocin Massage at St. Khadijah I Hospital Makassar

Massage Oxytocin	**Hormone Oxytocin**		**Oxytocin Hormone Concentration Values**		**Mann Whitney test p value**
	Mean	Std. Dev	Min	Max	
Massage	379,12	74,36	304,75	453,49	0,401
No Massage	412,96	107,83	305,13	520,80	

Table 4 provides information that for the Active Phase in the group given the Oxytocin Massage intervention, the average oxytocin hormone concentration was 379.12 where the maximum limit reached 453.49 and the minimum limit reached 304.75. In the group that was not given the Oxytocin Massage intervention, the average oxytocin hormone concentration was 412.96 where the maximum limit reached 520.80 and the minimum limit reached 305.13. The Mann-Whitney test is used when data is not normally distributed or when parametric assumptions are not met. Based on the results of SPSS analysis using the Mann Whitney test, the p value is 0.401 which is greater than the $\alpha = 0.05$ value so that Ho is accepted. This means that there is no significant effect of differences in oxytocin hormone concentrations in mothers inpartu Kala I with Active Phase at Siti Khadijah I Hospital Makassar.

Table 5. Analysis of the Average Difference in Oxytocin Hormone Concentration of Mothers Massaged and not massaged in Latent and Active Phases at St. Khadijah I Hospital Makassar

Group Massaged	Hormones Oxytocin		Oxytocin Hormone Concentration Values		Mann Whitney test p value
	Mean	Std. Dev	Min	Max	
Laten	389,59	41,43	348,15	431,03	0,294
Active	379,12	74,36	304,75	453,49	
Non-Massaged group	**Hormones Oxytocin**		**Oxytocin Hormone Concentration Values**		**Mann Whitney test p value**
	Mean	Std. Dev	Min	Max	0,345
Laten	367,24	26,79	340,44	394,04	
Active	412,96	107,83	305,13	520,80	

Table. 5 provides information that for the Massaged Group in the Latent Phase, the average oxytocin hormone concentration was 389.59 where the maximum limit reached 431.03 and the minimum limit reached 348.15. In the Group Massaged in the Active Phase, the average oxytocin hormone concentration was 379.12 where the maximum limit reached 453.49 and the minimum limit reached 304.75. Based on the results of SPSS analysis using the Mann Whitney test, the p value is 0.294 which is greater than the value of α = 0.05 so that Ho is accepted. This means that there is no significant effect of the difference in oxytocin hormone concentrations in mothers inpartu Kala I who are given Oxytocin Massage interventions between the Latent Phase and the Active Phase at Siti Khadijah Hospital I Makassar.

Table 5 also provides information that for the Unmassaged Group in the Latent Phase the average oxytocin hormone concentration was 367.24 where the maximum limit reached 394.04 and the minimum limit reached 340.44. In the Non-Massaged Group in the Active Phase, the average oxytocin hormone concentration was 412.96 where the maximum limit reached 520.80 and the minimum limit reached 305.13.

Based on the results of SPSS analysis using the Mann Whitney test, the p value is 0.345 where the value is greater than the value of α = 0.05 so that Ho is accepted. This means that there is no significant effect of the difference in oxytocin hormone concentration in mothers inpartu Kala I who are not given Oxytocin Massage intervention between the Latent Phase and the Active Phase at Siti Khadijah I Hospital Makassar.

3.2 Discussion.

Based on the results of SPSS analysis using the Independent T-Test Sample test, the p value is 0.221 where the value is greater than the α = 0.05 value so that Ho is accepted. This means that there is no effect or no difference in the concentration of oxytocin hormone in mothers inpartu Kala I with Latent Phase at Siti Khadijah I Makassar Hospital.

Oxytocin massage is a massage along the spine (vertebrae) to the fifth-sixth costae bone and is an attempt to stimulate the oxytocin hormone. This massage serves to increase the oxytocin hormone which can calm the mother (Aryanti et al., 2020).

Oxytocin massage can stimulate the anterior and posterior pituitary to secrete the hormone oxytocin. Then the oxytocin hormone will trigger smooth muscle contractions in the uterus, while the sign if there is an oxytocin reflex is the pain felt by the mother due to uterine contractions (Afrira, 2018).

The Latent Phase in the group given the Oxytocin Massage intervention had an average oxytocin hormone concentration of 389.59. In the group that was not given the Oxytocin Massage intervention, the average oxytocin hormone concentration was 367.24.

Puspitasari (2018) research, explains the relationship between spinal muscle massage and increasing oxytocin levels and reducing levels of Adreno Cortico Tropin Hormone (ACTH), nitricoxide (NO) and beta-endorphine (BE). Comparison of the effects of massage in the intervention group and control group has a significant difference (Romdiyah et al., 2018).

According to Ratnawati & Agustina, (2020), the average oxytocin level in the group before massage on the upper spinal muscles was 190.37 ± SD 122.04 pg/dl, and oxytocin levels after massage increased to 223.50 ± SD 127.16 pg/dl.

In the active phase, the group given the oxytocin massage intervention had an average oxytocin hormone concentration of 379.12. Meanwhile, the group that was not given the oxytocin massage intervention had an average oxytocin hormone concentration of 412.96.

Based on the results of SPSS analysis using the Independent T-Tes Sample test, the p value is 0.447, which is greater than the α=0.05 value, so Ho is accepted. This means that there is no significant effect of the difference in oxytocin hormone concentration in laboring mothers in the first phase with the active phase.

The average price of oxytocin concentration increased in the control group compared to the treatment (the expected value of oxytocin increased in the treatment group than the control group), it turned out that there were 2 subjects (group number 21 and 22) whose age was more than 30 years with oxytocin concentrations of more than 500 which gave an increased value to the control group (with a standard deviation in the group that was not massaged more increased than the massage group 107.83271).

According to Handayani & Rustiana, (2020) states that massage given frequently when mothers face labor can suppress the production of pain mediators, when pain decreases the mother can calm down and be able to adapt to her labor situation so that labor goes well, namely pathographs within normal limits.

Related to the results obtained are not significant, there are several related factors such as Stress and Anxiety Where psychological conditions such as 1) Stress and Anxiety can inhibit the increase of oxytocin hormone. Stress can increase levels of the hormone cortisol, which can reduce the effects of massage stimulation on oxytocin. Quality and 2) Massage Technique, Inadequate or ineffective massage technique and quality may reduce the potential for oxytocin enhancement. Massage performed without regard to correct technique may not provide sufficient stimulation to stimulate oxytocin release. 3) Individual Physiological Factors, Each individual has a different physiological response to massage. Factors such as age, gender, and general health condition may affect how effective oxytocin massage is in increasing the levels of the hormone. 4) Drug Interactions, The use of certain medications may affect the release of oxytocin. For instance, some medications that function as serotonin reuptake inhibitors (SSRIs) may affect the levels of oxytocin in the body. 5) Massage Environment and Conditions, The environment in which the massage is performed may also affect the outcome (Pratiwi & Nurrohmah, 2020).

An uncomfortable, noisy, or unhygienic environment can reduce relaxation and, therefore, inhibit the increase in oxytocin (Satria et al., 2020).

The results of research by Wijaya et al., (2018), showed that there was no difference and the effect of oxytocin massage on the progress of labor, this was influenced by the duration factor and the way of massage that was not appropriate and not in accordance with what should be, because based on the theory of the steps in performing oxytocin massage must be considered properly so that the massage produces an optimal effect, one of the steps that need to be considered is the way of massage or strength in each mother. In addition, the duration of oxytocin massage also needs to be considered, a good time to do massage is for 3-5 minutes.

The effect of massage is also discussed by Nurainun & Susilowati (2018), which states that massage will increase oxytocin hormone levels. Oxytocin massage is an act of massaging the spinal muscles from the cervical to the scapula which will accelerate the work of the parasympathetic nerves to convey commands to the back of the brain so that oxytocin comes out.

CONCLUSION

Based on the results of the study, it can be concluded that in the latent phase of oxytocin concentration in groups that received massage treatment and no massage there was a

significant difference. In the active phase, there was no significant effect on the groups that received massage treatment and those that were not massaged. Some inhibiting factors that made it insignificant include stress and anxiety, massage technique, individual physiological factors, drug interactions, environment and massage conditions.

ADVISE

It is hoped that further research will use more varied methods and the number of respondents will be increased to a larger number with different variables to conduct research.

REFERENCES

Afrira Putri. (2018). Pengaruh Pemberian Pijat Oksitosin Terhadap Volume Perdarahan Pada Persalinan Normal Kala IV. *Jurnal Kperawatan Mandira Cendikia*, *2*(1).

Aryanti, D., Gustanti, A., & Februanti, S. (2020). Implementasi Pijat Oksitosin dan Hypnobreastfeeding Dalam Asuhan Keperawatan Pada Ibu Post Partum Di Ruang Delima RSUD Ciamis. *Journal Of Baja Health Science*, *3*(01). https://doi.org/10.47080/joubahs.v3i01.2339

Field, T. (2010). Touch for socioemotional and physical well-being: A review. *Developmental Review*, *30*(4), 367–383. https://doi.org/10.1016/j.dr.2011.01.001

Field, T. (2014). Massage therapy research review. *Complementary Therapies in Clinical Practice*, *20*(4), 224–229. https://doi.org/10.1016/j.ctcp.2014.07.002

Handayani, E. T., & Rustiana, E. (2020). Perawatan Payudara Dan Pijat Oksitosin Meningkatkan Produksi Asi Pada Ibu Post Partum Primipara. *Jurnal Kebidanan Malahayati*, *6*(2). https://doi.org/10.33024/jkm.v6i2.2600

Hidayah, A., & Dian Anggraini, R. (2018). Pengaruh Pijat Oksitosin terhadap Produksi Asi pada Ibu Nifas di BPM Noranita Kurniawati. *Journal of Education Research*, *4*(1). https://doi.org/10.37985/jer.v4i1.154

Holt-Lunstad, J., Birmingham, W. A., & Light, K. C. (2008). Influence of a "warm touch" support enhancement intervention among married couples on ambulatory blood pressure, oxytocin, alpha amylase, and cortisol. *Psychosomatic Medicine*, *70*(9), 976–985. https://doi.org/10.1097/PSY.0b013e318187aef7

Ibrahim, S. S., Suciawati, A., & Indrayani, T. (2019). Pengaruh Edukasi Pijat Oksitosin Terhadap Pengetahuan Ibu Postpartum Di Klinik Ikhwan Sentul Kabupaten Bogor Tahun 2021. *Journal for Quality in Women's Health*, *4*(1).

Irnawati, & Sari, L. P. (2018). Perbedaan Efektivitas Perawatan Payudara dan Pijat Oksitosin terhadap Kelancaran Pengeluaran ASI pada Ibu Postpartum. *Jurnal Ilmiah Kesehatan (JIKA)*, *4*(1).

Muslimah, A., Laili, F., & Saidah, H. (2020). Pengaruh Pemberian Kombinasi Perawatan Payudara dan Pijat Oksitosin terhadap Produksi ASI pada Ibu Post Partum. *Jurnal Mahasiswa Kesehatan*, *1*(2).

Notoatmodjo, S. (2010). *Metodologi Penelitian Kesehatan*. Rineka Cipta.

Nurainun, E., & Susilowati, E. (2021). Pengaruh Pijat Oksitosin Terhadap Produksi ASI Pada Ibu Nifas : Literature Review. *Jurnal Kebidanan Khatulistiwa*, *7*(1). https://doi.org/10.30602/jkk.v7i1.611

Pratiwi, L. N., & Nurrohmah, A. (2020). Pengaruh Pijat Oksitosin Menggunakan Essential Oil Lavender Terhadap Produksi Asi Pada Ibu Nifas Di Desa Kemiri. *Jurnal Keperawatan Suaka Insan (JKSI)*, *8*(1). https://doi.org/10.51143/jksi.v8i1.399

Puspitasari, L., & . E. (2018). Manfaat Penguatan Otot Abdomen Dan Pemijatan Lumbal Terhadap Percepatan Proses Persalinan Kala I. *Jurnal Kebidanan*,

10(01). https://doi.org/10.35872/jurkeb.v10i01.295

Ratnawati, E., & Agustina, C. (2020). Survei Penerapan Pijat Oksitosin di Unit Pelayanan Keperawatan Maternitas. *Jurnal Kesehatan*, *12*(1). https://doi.org/10.46815/jk.v12i1.142

Riffa Ismanti, & Fifi Musfirowati. (2018). Pengaruh Pijat Oksitosin Terhadap Produksi Asi Pada Ibu Postpartum Literature Review. *Jurnal Rumpun Ilmu Kesehatan*, *1*(1). https://doi.org/10.55606/jrik.v1i1.1542

Romdiyah, R., Nugraheni, N., & Nurbaet, P. (2018). Faktor Yang Mempengaruhi Tindakan Pelaksanaan Pijat Oksitosin Pada Ibu Nifas. *Jurnal Sains Kebidanan*, *3*(2). https://doi.org/10.31983/jsk.v3i2.7914

Satria, R., Sukohar, A., Sari, R. D. P., & Rodiani, R. (2020). Perbandingan Induksi Misoprostol dengan Oksitosin terhadap Lama Persalinan pada Kehamilan dengan Ketuban Pecah Dini. *Jurnal Penelitian Perawat Profesional*, *6*(2). https://doi.org/10.37287/jppp.v6i2.2302

Sugiyono. (2018). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.

Wijaya, M., Bewi, D. W. T., & Rahmiati, L. (2018). Pengaruh Pijat Oksitosin Terhadap Nyeri Dan Kemajuan Persalinan Pada Ibu Bersalin. *Jurnal Ilmiah Bidan*, *III*(3), 27–34. https://ibi.or.id/journal/index.php/jib/article/view/85/61