

Nutrition Counseling toward Knowledge and Attitude of Breastfeeding Mothers and Infant Growth in Lubuk Pakam Subdistrict

Konseling Gizi terhadap Pengetahuan dan Sikap Ibu Menyusui serta Pertumbuhan Bayi di Kecamatan Lubuk Pakam

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Abstract

To implement exclusive breastfeeding program, mothers should have a good knowledge. One way to gain knowledge is by providing nutritional counseling. This study aimed to determine the effect of nutrition counseling toward exclusive breastfeeding and nutritional status toward the knowledge and attitude of breastfeeding mothers in Lubuk Pakam Subdistrict Primary Health Care. This study was a quasi experimental with non-equivalent control group design. Samples of 60 mothers were divided into two groups, that were 30 mothers who received intensive nutrition counseling at the intervention group in Lubuk Pakam Primary Health Care work area and 30 mothers at control group in Tanjung Morawa Primary Health Care work area. The intervention group was given nutrition counseling intervention for three months provided in three sessions. The study was conducted in March-August 2016. The statistical analysis used t-test. The results showed that before intervention, knowledge and attitude in both groups did not differ consecutively with p value = 0.290 and p value = 0.658, after intervention both knowledge and behavior were significantly different p value = 0.001. While the average weight gain in infants in the first month was 1.25 kg in intervention group, 1.19 kg in control group, and in the second month was 1.44 kg in intervention group and 1 kg in control group in average. Paired t tests show that there is effect of nutritional counseling toward knowledge and attitude in the intervention group.

Keywords: Attitude, growth, knowledge, nutrition counseling

Abstrak

Untuk dapat menjalankan program ASI eksklusif, ibu menyusui harus memiliki pengetahuan yang baik. Salah satu cara dalam menambah pengetahuan yaitu dengan memberikan konseling gizi. Penelitian ini bertujuan untuk mengetahui pengaruh konseling gizi tentang ASI eksklusif dan status gizi terhadap pengetahuan dan sikap ibu menyusui di wilayah Puskesmas Kecamatan Lubuk Pakam. Jenis penelitian ini adalah *quasi experimental non-equivalent control group design*. Sampel sejumlah 60 ibu dibagi ke dalam dua kelompok, yaitu 30 ibu yang diberikan konseling gizi intensif pada kelompok intervensi di wilayah kerja Puskesmas Lubuk Pakam dan 30 ibu pada kelompok kontrol di wilayah kerja Puskesmas Tanjung Morawa. Kelompok perlakuan diberikan intervensi konseling gizi selama tiga bulan yang diberikan sebanyak tiga sesi. Penelitian dilakukan pada bulan Maret-Agustus 2016. Hasil penelitian menunjukkan sebelum dilakukan intervensi pengetahuan dan sikap pada kedua kelompok tidak berbeda secara berturut-turut dengan $p=0.290$ dan $p=0.658$, sedangkan setelah intervensi baik pengetahuan maupun perilaku berbeda secara signifikan dengan nilai $p=0.000$. Rata-rata kenaikan berat badan bayi pada bulan pertama pada kelompok perlakuan sebesar 1,25 kg, kelompok kontrol sebesar 1,19 kg dan bulan kedua pada kelompok intervensi sebesar 1,44 dan kelompok kontrol 1 kg. *Paired test* yang dilakukan menunjukkan bahwa terdapat pengaruh konseling gizi terhadap pengetahuan dan sikap pada kelompok intervensi.

Kata kunci: Sikap, pertumbuhan, pengetahuan, konseling gizi

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Introduction

Infant nutritional status is determined starting from early pregnancy up to breastfeeding. National Movement Acceleration Nutrition Improvement in the first 1,000 days of life is very important in efforts to create Indonesian human resources healthy, intelligent and productive. The nutrition problem has long been the world's concern. The term first 1,000 days of life is defined as 270 days during pregnancy and 730 days from birth until the age of 2 years. One program 1,000 First Days of Life is giving exclusive breastmilk to infants aged 0-6 months. Exclusive breastmilk is the best food for infants because it has the most complete nutritional composition for infant growth and development.¹ According to data from the National Health Survey in 2010, 33.6% of infants in Indonesia receive exclusive breastfeeding. This means there are still about 2 per 3 of infants in Indonesia still do not receive exclusive breastfeeding, so it is necessary to increase the exclusive breastfeeding campaign and encourage local governments and the private sector to support. There are several factors leading to low coverage of exclusive breastfeeding in Indonesia, such as the dissemination of information among health care workers and people that is not optimal, which is only about 60% of people who know information on breastfeeding and only about 40% of trained health workers who can provide counseling on breastfeeding.²

Exclusive breastfeeding provision to infants aged < 6 months is globally reported less than 40%. Nationwide coverage breastfeeding for infants up to the age of 6 months fluctuated, i.e. 24.3% in 2008, then increased in 2009 to 34.3%, and decreased in 2010 to 33.6%.¹ Globally, there has been a general decline in the practice of breastfeeding both of the amount and duration of the last few decades. Possible reasons for refusing to breastfeed include a lack of trust that children would get insufficient breastmilk, the increase of mother's work, the work load demand which makes them separated from their infants for longer hours, decreased social support, discomfort to breastfeed in public, and the intensive promotion of infant formula milk commercial.

The results of rapid assessment by Ministry of Health in 2011 found that many state and private hospitals received sponsorship and gifts from infant formula milk companies, which certainly weaken the efforts to increase the success of exclusive breastfeeding coverage in Indonesia. Exclusive breastfeeding provision achieves the success nationally only at 33.6%, and 35% according to the WHO Global Data Bank in 2012, so that the active role of the whole society are absolutely necessary to improve the success of the promotion of exclusive breastfeeding in Indonesia.³ Exclusive breastfeeding provision prevalence in North Sumatra, according to National Basic Health Research 2013, is 37.6%. This suggests that

provision of exclusive breastfeeding is still up to 50% of the area of North Sumatra, while the prevalence of breastfeeding only in the last 24 hours at the age of 0 months 52.7% , the age of 1 month at 48.7%, the age of 2 months at 46.0%, the age of 3 months at 42.2%, the age of 4 months at 41.9%, the age of 5 months at 36.6%, and the age of 6 months at 30.2% . Thus the prevalence of exclusive breastfeeding provision for the infant decreased.⁴ From the preliminary survey on the work area of Lubuk Pakam Primary Health Care from January to November 2015, the total number of infants was 203, exclusively breastfed 17.73%, and those who got early complementary food as much as 82.27%.

Most population of Indonesia live in villages and nearly 50% had low education, so that knowledge of mothers about the importance of exclusive breastfeeding is very minimal. Maternal ignorance will also affect the mother's attitude in providing exclusive breastfeeding, therefore, the knowledge of mothers about exclusive breastfeeding needs to be improved. Lack of mother's knowledge about the benefits of exclusive breastfeeding and misleading perceptions of the exclusive breastfeeding will affect on the practice of the mother to exclusively breastfeed the infant. Therefore, mothers should be appropriately informed about exclusive breastfeeding.⁵

Based on the background, this study aimed to determine the effect of nutrition counseling on breastfeeding and nutritional status toward knowledge and attitude of breastfeeding mothers in Lubuk Pakam Subdistrict Primary Health Care.

Method

The study design was quasi-experimental with non-equivalent control group design. In the intervention group with nutritional counseling, attitude and knowledge were measured by questionnaire. Nutrition counseling intervention was given in the control group. Study was conducted at Lubuk Pakam Subdistrict Primary Health Care and Tanjung Morawa Subdistrict Primary Health Care. Data were collected in March-August 2016.

The population of this study was all mothers with infants aged 0-3 months and breastfeeding exclusively, living in work area of Lubuk Pakam Subdistrict Primary Health care as the intervention group and Tanjung Morawa Subdistrict Primary Health Care as the control group. Subjects of the study were taken with inclusion criteria including the mother who did not work until 3 months of postpartum, the infant who received exclusive breastfeeding for 3 months, the infant born did not have the defect or congenital defect, willing to be the respondent. While exclusion criteria were not willing to follow early breastfeeding initiation during labor, infant or postpartum severe illness and infants born with low birth weight. Samples of 60 mothers were divided into two

group that were 30 mothers who received intensive nutrition counseling at Lubuk Pakam Subdistrict Primary Health Care, and control group with 30 mothers who did not get nutrition counseling at Tanjung Morawa Subdistrict Primary Health Care. The topics of nutrition-counseling given were benefits of breast milk and weakness of formula milk, proper breastfeeding measures, breastfeeding support, breastfeeding problems, attachment support position, exclusive breastfeeding success steps and length and frequency of breastfeeding sampling after done by screening in accordance with the inclusion criteria, respectively in the two groups were 60 mothers.

Nutrition counseling was given in the intervention group in 3 sessions for 30 days, and not given in the control group. Intervention was given to mothers with infants aged 0-3 months. Then the sample pre-test questionnaires were filled in the form of knowledge and attitude questions respectively amounted to 20 items. Both groups used design with pre-test and post-test. Counseling was divided into three sessions. Intensive counseling session 1 was made on day 1 to day 7. Reinforcement sessions and counseling in session 2 were performed on day 8 to 14 of this session in aim to strengthen what the mother knew from researchers in accordance with recommendations suggested. Session 3 is an independent practice session independently conducted on 15-28 days, mothers were recommended given the opportunity to practice the instruction. At this session, the target no longer visited except on day 28 counselors would be doing an assessment of the output counseling. To rate output in the form of counseling, post-test was done to determine if there were differences in knowledge and attitude of breastfeeding mothers after nutrition counseling was given. Post-test on knowledge and attitude were performed on intervention group and control group.

Each questionnaire on knowledge and attitude consisted of 20 questions about exclusive breastfeeding, exclusive breastfeeding benefits, nutritional composition, mother's support and proper breastfeeding. Prior to this study, questionnaires were conducted for validity and reliability of the 30 samples with the same inclusion crite-

ria. Validity test results stated that the data was a question of attitude if $r_{\text{count}} > r_{\text{table}}$ then declared valid questions, from 25 questions then obtained 20 valid questions, with a Cronbach alpha reliability test results $0.698 > 0.600$ then the data was considered reliable. Validity test results to the results obtained knowledge questions from 25 questions that 20 valid questions, with person correlation reliability test results of $0.625 > 0.600$ then the data was considered reliable.

Data analysis included univariate analysis to describe each of variables that were maternal age, occupation, education, preliminary and final knowledge data, preliminary and final attitude data, exclusive breastfeeding, infant nutritional status presented in frequency distribution and analyzed with percentage. Bivariate analysis used the t-test to determine the influence of nutrition counseling on maternal knowledge of exclusive breastfeeding and infant nutritional status, the effect of nutrition counseling on mother's attitude to exclusive breastfeeding and infant nutritional status and the influence of nutritional counseling on infant nutritional status.

Results

This study was followed by 30 mothers in intervention group and 30 mothers in the control group (Table 1). Prior to the study, samples were asked to fill identity form. Results of study for the intervention group and the control showed the similar characteristics of breastfeeding mothers. Tests of significance by the chi-square test obtained $p \text{ value} > 0.05$. Based on this, the characteristics of breastfeeding mothers in the intervention group and the control group were not significantly different

Knowledge and action asked about exclusive breastfeeding was very beneficial for infant growth and development, and the dangers of infant formula milk feeding. The samples also claimed that they received good information and insight from the counseling done. Table 2 presents the average score of knowledge on both groups before and after intervention that were statistically different. Knowledge in the intervention group before and after the intervention increased by 9.00 points, the increase was statistically significantly different ($p \text{ value} =$

Table 1. Characteristics of Respondents

Variable	Category	Intervention Group	Control Group	p Value
Age	20-24 years	4 (13, 3%)	5 (16,7%)	0.623
	25-29 years	14 (46,7%)	17 (58,7%)	
	30-34 years	7 (23,3%)	6 (20,0%)	
	35-39 years	5 (16,7 %)	2 (6,7%)	
Capital education	Junior high school	4 (13,3%)	6 (20,0%)	0.753
	Senior high school	22 (73,3%)	21 (70,0%)	
	Higher education	4 (13,3%)	3 (10,0%)	
Work	Employee	2 (6,7%)	7 (23,3%)	0.180
	Housewife	18 (60,0%)	16 (53,35)	
	Self-employed	10 (33,3%)	7 (23,3%)	

Table 2. Distribution of Middle Score Before and After Intervention

Group	Variable	Category	Mean	SD	p Value
Intervention	Knowledge	Before	80.83	12.04	0.000
		After	89.83	5.79	
		Changes in	9.00	8.03	
	Attitude	Before	77.86	13.28	0.000
		After	86.83	5.79	
		Changes in	9.06	9.87	
Control	Knowledge	Before	77.20	14.22	0.039
		After	74.50	11.98	
		Changes in	2.70	6.82	
	Attitude	Before	76.33	13.43	0.033
		After	73.56	10.14	
		Changes	2.77	6.77	

Notes:
SD = Standard Deviation

Table 3. Distribution of Comparison of Knowledge

Variable	Group	Mean	SD	p Value
Before intervention	Intervention	80.83	12.04	0.290
	Control	77.20	14.22	
After intervention	Intervention	89.83	5.79	0.000
	Control	74.50	11.98	

Notes:
SD = Standard Deviation

Table 4. Distribution Comparison of Attitude

Variable	Group	Mean	SD	p Value
Before intervention	Intervention	77.86	13.28	0.658
	Control	76.33	13.43	
After intervention	Intervention	86.93	7.57	0.000
	Control	73.57	10.15	

Notes:
SD = Standard Deviation

0.000). Knowledge in the control group before and after intervention decreased by 2.70 points, the decrease was statistically significantly different (p value = 0.039).

Average score of attitude in both groups before and after intervention were statistically different. The attitude of the intervention group before and after the intervention increased by 9.06 points, the increase was statistically significantly different (p value = 0.000). The attitude in the control group before and after intervention decreased by 2.77 points, the decrease was statistically significant different (p value = 0.033), the lowest scores before and after the intervention were 40 and 55.

Before the intervention was given to the subject, the knowledge of exclusive breastfeeding was firstly assessed. Table 3 describes that the mean score of knowledge in both groups before the intervention was different. The intervention group had a mean score of 80.83 and the knowledge of the control group had a mean score of 77.20. Differences between the mean score of knowledge before the intervention in both groups did not dif-

fer significantly (p value > 0.05).

After the intervention was given, the mean scores of knowledge in the intervention group and the control group were 89.83 and 74.50 respectively. The mean knowledge scores after intervention in both groups differed significantly (p value < 0.05).

Before the intervention was given to the subject, firstly attitude to exclusive breastfeeding was assessed (Table 4). The mean score of knowledge explains that the attitude of the two groups before the intervention was different. The mean score of attitude in the intervention group was 77.86, and 76.33 in control group. Attitude differences between the mean scores did not differ significantly (p value > 0.05).

After the intervention was given, the mean score of attitude in the intervention group and the control group amounted to 86.93 and 73.57. Differences between the mean knowledge score after intervention in both groups differed significantly (p value < 0.05).

Results showed that subjects who received nutrition-counseling were more likely to exclusively breastfeed (83.3%). Table 5 presents that the results of the analysis of relative risk mean that 1,563 subjects who received nutrition counseling would likely to provide exclusive breastfeeding 1.563 times than subjects who did not receive nutrition counseling.

Figure 1 describes the average growth rate of weight gain of the infants in intervention group and the control group. The graph shows that the average weight gain was higher in intervention group than in the control group. In the first month, the average increase in the intervention group was 1.25 kg, and in the second month at 1.44 kg. The average weight gain in the control group was 1.19 kg in the first month and 1 kg in the second month.

Discussion

Questions on pre-test knowledge were directly asked by researchers to the infant’s mother. After an explana-

Table 5. Distribution of Provision of Exclusive Breastfeeding

Group	Provision of Exclusive Breastfeeding		p Value	RR (95% CI)
	Exclusive Breastfeeding	Not Exclusive Breastfeeding		
Intervention	25 (83.3%)	5 (16.7%)	0.026	1.563 (1.078; 2.264)
Control	16 (53.3%)	14 (46.7%)		

Notes:

RR = Relative risk ; CI = Control interval

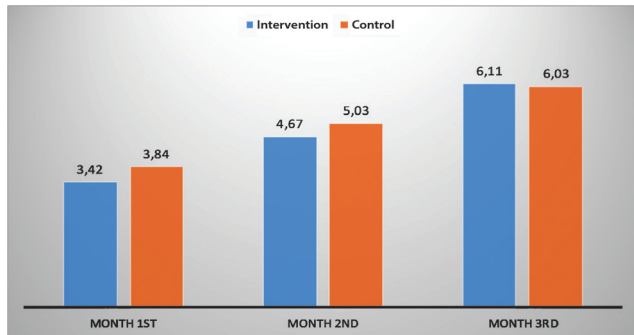


Figure 1. Average Weight Gain Samples in Intervention and Control Group

tion of the agreement to conduct nutritional counseling by visiting a sample home was given, intensive counseling was then conducted. Samples that met the inclusion criteria and approved activities to be carried out firstly had to sign a consent form as proof of the willingness of information and media samples.

Young mothers (< 25 years old) and primiparous mothers were more likely to mention “insufficient breast milk” as a reason for cessation, suggesting that perceptions of low milk supply may be linked to a lack of knowledge about breastfeeding or lack of previous breastfeeding experience. A recent Cochrane’s review on support for breastfeeding mothers with healthy term infants found that support from both professionals and lay supporters increased the duration. However, support offered reactively, which was initiated only after women sought out contact instead of on an ongoing, scheduled basis, was ineffective. Mothers concluded that face-to-face support at scheduled visits was optimal.⁶

Nutrition counseling activities began with intensive session for 7 days, then strengthening by 2 visits done on day 8 and day 14. In self-study session (on day 15-28) the sample had no longer visit, respondents were given in the opportunity to practice independently the instructions given on Exclusive breastfeeding counseling, then output of counseling were assessed on day 28. Counseling was done directly by the researcher accompanied by skilled integrated health care cadres. Implementation of counseling was done by using a flip chart display, exclusive breastfeeding materials, discussions, as well as material on the attachment of the correct

feeding position. At the beginning of counseling, in average samples were still not sure about the correct position of the attachment of breastfeeding and still did not understand the significance of giving exclusive breastfeeding.

In the intervention group, the average knowledge before and after intervention increased by 9.00 point and this increase was statistically significant (p value = 0.001). This study is in line with study by Ambarwati, *et al.*,⁷ in Semarang, which showed that the women who received intensive counseling had a higher level of knowledge than mothers who got regular counseling from midwife. Improved knowledge was due to the intervention of nutrition education. Education with counseling methods that put mothers as subjects rather than as objects would put a great interest for counseling, it motivates the mother to find out more about the definition and benefits of early initiation of breastfeeding, breast care, feeding position and latch the baby, insufficient breastmilk, benefits expressing milk, how to express the milk, storage and presentation of breastmilk way, the dangers of formula.⁷ Notoatmodjo,⁸ said that health education can be done in various ways, namely education, training, counseling, consultation and through the media. All five of these methods have advantages and disadvantages.

The average knowledge in both groups before the intervention was not statistically different (p value = 0.290), but statistically different after the intervention (p = 0.000). This study is in line with study by Taufiqurahman, *et al.*,⁹ stating that after counseling assistance to mothers of infants aged 0-6 months in the intervention and the control group there were significant differences (p value = 0.000). The knowledge level of the intervention group increased by 9.0 points, while it decreased by 2.7 points in the control group. Study by Fikawati states that exclusive breastfeeding knowledge is one of the success factors in the provision of exclusive breastfeeding.¹⁰

Counseling given leads to the attitude of mothers to practice exclusive breastfeeding demonstration. As many as 20 items of questionnaire consisted of statement on attitude to the provision of exclusive breastfeeding, correct feeding position, as well as the use of breast milk when mothers cannot breastfeed directly. Samples answered

questions about attitudes in accordance with what they had done. The resulted scores in the intervention group showed an increase in both categories from 16 to 25 people, in contrast to the control group that had decline in both categories from 16 to 13 people. The score difference due to the absence of counseling was gained by the control group. Study conducted by G.Abdullah and Ayubi,¹¹ expressed that exclusively-breastfeed infants deal with the attitude of the mother. Confidence to provide exclusive breastfeeding is the main asset in the success of breastfeeding. The results showed that respondents providing exclusive breastfeeding had a supportive attitude as much as 66.7%, and that did not support as much as 33.3%.¹¹

Based on resulted scores in both groups before the intervention, there were 16 samples with a good attitude category, which is on the implementation of maternal behaviour doing it. However, after the intervention group were counseled, score changes can be seen by 30% of samples. The increase in the total score was also based on counseling given, then the sample was asked to independently practice exclusive breastfeeding. Implementation of the results of the counseling attitude can also be seen from the way respondents provides exclusive breastfeeding baby or formula feeding. This study found that there were samples giving breast milk accompanied by formula milk because the samples were working mothers and they admitted that it is difficult to manage time between work and breastfeeding.

Attitude can not be seen, but it can be interpreted in advance of behaviors closed. Attitudes are emotional reactions to social stimuli. According to Newcomb in Notoatmodjo,⁸ attitude is a readiness or willingness to act, which predisposes the action of a behavior, not the implementation of a particular motif. Attitude is a readiness to react to certain objects in the environment as an appreciation of the object.⁸ Attitudes may change if counseling is provided to the mother, so that exclusive breastfeeding behavior may change. Study in six countries (Bangladesh, Benin, the Philippines, Sri Lanka, Uganda, and Uzbekistan) produces the improvement in exclusive breastfeeding rates in Benin from 1996 to 2006 benefited all wealth levels and led to the elimination of large differences between rich and poor, with rates increasing from 3% to 45% among infants from the poorest household and from 20% to 42% among the richest through improved access to counseling and support services at the community level, supported the role of breastfeeding as a universal equalizer.¹²

Provision of exclusive breastfeeding was more performed in the intervention group (83.3%) than in the control group (53.3%). Study by Ochola *et al.*,¹³ states that to strengthen mother provide exclusive breastfeeding needs for intensive counseling at home, the study

group receiving intensive counseling exclusively breastfeed was as much as 89%, while the group receiving semi intensive as much as 87%. This study is comparable to study conducted by Ochola, *et al.*,¹³ in Kenya, respondents who received more intensive counseling provided exclusive breastfeeding for 6 months at 23.9 % than the group of respondents who received counseling semi-intensive 2%. The provision of exclusive breastfeeding is a dedication of a mother to her child. There are many factors that cause the mother not exclusively breastfeed their children, including fatigue while breastfeeding, insufficient breast milk, the decision of the mother, the mother returned to work and etc.¹⁴

In the intervention group and the control group, there were differences in weight gain every month. Differences in weight gain of both groups were not too much, in which in the first month the average increase at the intervention group was 1.25 kg and 1.44 kg in the second, while in the control group the average weight gain in the first month was 1.19 kg and 1 kg in the second month. The increase in infant weight in the intervention group was still at normal stage, as well as study by Hunsberger *et al.*,¹⁵ stating that exclusive breastfeeding is a protective factor for overweight in infants as infant growth period is what determine the success to provide nutrition to infants. While Khamzah,¹⁶ reported that normal growth patterns among infants fed breast milk with formula milk at 4-6 months of age, infants fed formula gained weight that tend to be faster than breast-fed babies. After the first 6 months, breastfed infants tend to be slimmer than the formula-fed infants.¹⁶ Study conducted by Saadia Ijaz *et al.*,¹⁷ said that the babies with a normal growth were about 17.6% that did not receive exclusive breastfeeding, while the 37.5% babies were growing abnormally that did not get exclusive breastfeeding. The growth of exclusively breastfed infants is normal because the content of the nutrients found in breast milk has met the needs of babies up to the age of 6 months.¹⁸ Then the results of study by Fitri *et al.*,¹ in Nanggalo Primary Health Care of Padang, Indonesia shows that the proportion of infants aged 6 months with normal growth is found in exclusively breastfed infants (73.3%) compared to non-exclusively breastfed infants (62.9%). The OR = 1.62 and 95% CI= 0.428-6.169 mean that exclusive breastfeeding is an influential factor for normal growth, in which exclusively breastfed infants were 1.62 times more likely to grow normal non-exclusively breastfed infants.

Conclusion

There are significant differences between the knowledge and attitude of the mother before and after intervention. Differences in scores of knowledge and attitude occur because of interventions for the intervention group, not for the control group.

Recommendation

To further increase the knowledge of breastfeeding and improve the practice of exclusive breastfeeding, the role of health professionals is necessary to support the success of exclusive breastfeeding in a region. Then the provision of information and health promotion will be able to improve the health in the region.

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