

The Effectiveness of Communication Information and Education to ward Knowledge and Reading Interest of Maternal and Child Health Book of Pregnant Mothers In Batu City, East Java-Indonesia

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Abstract: Maternal Mortality is an indicator of how well the entire health care system is functioning. Maternal Mortality Rate (MMR) in Indonesia is still high relatively, in 2011 the MMR in Indonesia is 240/100 thousands birth rate. in 2012 it increased to 346/100.000 thousands birth rate. the numbers is still far from Millennium Development Goals (MDG-s) 2015 which is 102/100 thousands birth rate. One of the efforts developed by Ministry of Health is by empowering families and people by KIA book. By giving KIA book expected mother will read it so that at least they know about the health of their pregnancy. However, the phenomenon shows Indonesian people are still not make reading as the primary source of information, Indonesia holds the lowest position with a score of 51.7 under the Philippines (score 52.6), Thailand (score 65.1), Singapore (score 74.0) and Hongkong (score 75.5) in addition, from the results of a preliminary study with interviews of pregnant women who have pregnancy checkup, stating that they seldom read the book and thought that KIA book is only taken during prenatal care. This research aimed at knowing the effectiveness of KIE toward Knowledge About KIA Book and Reading Interest of KIA Book. The research design used is Experiment with pretest-post test control group design. Population in this research is all of pregnant women Batu City area, with the amount of population was 60 people, divided into 2 groups. Sample taking using simple random sampling technique. Data processing analyzed using independent sample test, research result shows before KIE that half of respondents, 46.7% has moderate knowledge and 56.7% moderate interest. After KIE, half of respondent 83.3% has good knowledge and 73.3% high interest. Based on independent sample test with significance level of 0.05, significance value of $0.001 < 0.05$ was obtained, and mean difference of knowledge is more than the interest value $12,063 > 9,533$. The significance of the results is that pregnant mothers have a good knowledge about the content of KIA book will have high awareness for KIA book reading, while pregnant mother who have less knowledge about content of KIA book have a tendency not to read KIA book. It is therefore expected for pregnant mothers to further increase interest in reading KIA book that determine the health of pregnant mothers and to make early detection of irregularities in the pregnancy.

Keywords: KIE, Knowledge about KIA book, Reading interest of KIA book.

I. Introduction

Maternal Mortality is an indicator of how well the entire health care system is functioning. Maternal mortality rate (MMR) is one of the indicators to assess the functioning of the health care system. MMR is the number of women whose cause of death is related to pregnancy or treatment interruption (excluding accidents or incidental cases) during pregnancy, childbirth and within 42 days after childbirth regardless of the time of pregnancy per 100 000 live births.

Based on data from the WHO in 2011, the maternal mortality rate in Indonesia was recorded at 240 / 100,000 KH, maternal mortality rates have a tendency to increase. IDHS results in 2012 showed the maternal mortality rate of 359 / 100,000 KH (IDHS, 2012), and in every hour there are 3-4 women who died of childbirth. The figures are of course still far from expectations / goals of the Millennium Development Goals (MDG-s) 2015 which states it should be 102/100 thousands of birth rate .

Given the high maternal mortality rate in Indonesia which can occur at any time, maternal mortality is dubbed as The Silent Tsunami, then policies to reduce it should be applied as an Early Warning System for maternal mortality. MDG-5 focuses on reducing maternal mortality. Some policies are set to increase community access to quality health care through increased facilities-based outreach services, increased access of integrated reproductive health services, strengthen the function of midwives, strengthen referral systems, and early pregnancy health services. One of the measures developed by the Ministry of Health in order to reduce morbidity, high risk maternity, maternal and neonatal mortality is by empowering family and community through the use of Kesehatan Ibu dan Anak / KIA book (Maternal and Child Health book).

KIA book is a recording and counseling (education) instrument for the mother and her family because it contains information and education materials on maternal and child health, including their nutrition, which can

help families, especially mothers in maintaining her health since pregnancy and until her child is at the age of 5 years old, in addition it is also used as a means of communication between health workers and families, it is called as a communication tool since health workers can provide important records that can be read by other health workers, the mother and also her family, such as about her complaints, the results of the examination, delivery notes, the treatment given to the mother / baby / toddlers, additional examination and referral (Ministry of Health of RI, 2009). The purpose of the book is by reading KIA book, pregnant women and their families can be aware about the condition and can detect early abnormalities in the pregnancy so that it can reduce mortality rate. However, Indonesian society has tendency of low reading habit. Indonesian society has not make use of reading as the primary source of information, 85.9% of people prefer to watch television, 40.3% prefer radio listening, 9% prefer writing and 16 % prefer reading (BPS, 2010). Based on the data from the World Bank No. 16369-IND and the study the IEA (International Association for the Evaluation of Education Achievement), for East Asia region, Indonesia has the lowest position in terms of reading habit with a score of 51.7 under the Philippines (52.6), Thailand (65.1), Singapore (74.0) and Hong Kong (75.5).

Community service through a live broadcast on the "KontakTani" program in Radio of Republic of Indonesia in Malang with the theme of "Benefits KIA and KMS book" on 29 April 2013, resulted in lots of questions from the society, especially from pregnant women who do not have KIA book, and do not understand the content of the book. The results of a preliminary study about maternal knowledge showed there are only less than 46.3% pregnant women understand about it, and it can be observed that many women do not understand and have never read KIA book KIA. The book is only brought for routine checkup.

Seeing this phenomenon, the researchers want to examine the effectiveness of KIE/CIE (Communication Information and Education) toward pregnant women's knowledge and interest to read KIA book.

General Objective

To find out about the effectiveness of CIE on pregnant women's knowledge and interest to read KIA book.

Specific Objectives

1. To find out pregnant women's knowledge about KIA book before and after administration of IKE
2. To find out the reading interest of pregnant women toward KIA book before and after administration of IKE
3. To analyze the effectiveness of IKE on pregnant women's knowledge and interest to read KIA book

Benefits

The results of the study can be used as:

1. An input to further improve the knowledge and quality of care for pregnant women and health workers should always give good understanding about KIA book.
2. An effort to increase the knowledge and interest of the pregnant woman to read KIA book, so that they can determine the health of the mother and the baby.
3. An effort to improve antenatal care in gaining access to health services for pregnant women since early pregnancy and preventive measures in order to reduce morbidity, high risk, maternal and infant mortality.

II. Method

Design: This research used in this research is experiment with pretest-posttest control group design in which the subject of the study was divided into experiment group and control group. The Experiment group was given KIE while the control group was not given KIE. It was conducted to find out the knowledge and interest of pregnant women to read KIA book before and after KIE and it is also to find out the effectiveness of the knowledge and interest to the mother.

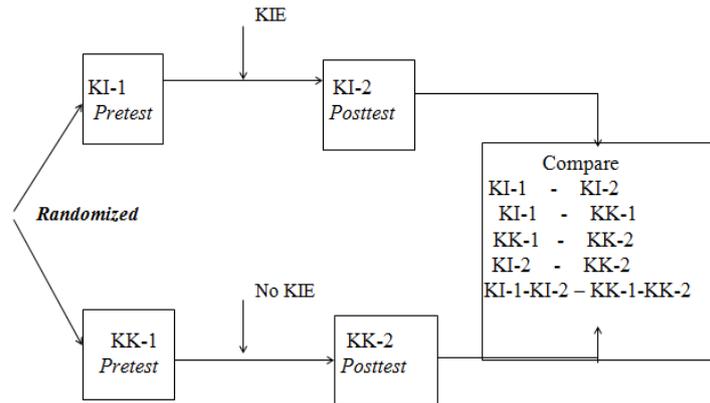


Figure a. Research Design

Population: The population in this study were pregnant women

Research sample: From the results of formula calculation above, the sample size was 20 respondents, 30 for the experiment group and 30 to the control group.

Data analysis: Data analysis to compare the knowledge and interest before and after treatment using statistical test of Independent sample test, with significance of α 0.05

Conclusions are made as follows:

- a) If $p < 0.05$, then H_0 is rejected or H_a is accepted
- b) If $p > 0.05$, then H_0 is accepted or H_a is rejected

III. Results & Discussion

Results

Univariate analysis

a. Knowledge about the KIA handbook KIE administration

The results of the analysis of the frequency distribution of maternal knowledge about KIA book prior to KIE, can be seen in the following table.

Table 4.5 Frequency Distribution of KIA Book Knowledge before KIE

Knowledge	Control Group		Intervention Group	
	Amount (n)	Percentage (%)	Amount (n)	Percentage (%)
Good	4	13,3	10	33,3
Fair	17	56,7	14	46,7
Poor	9	30	6	20
Total	30	100	30	100

Interpretation: Table 4.5 shows both in the control and intervention groups that the largest percentage of pregnant women’s knowledge about KIA book prior to KIE is in fair category.

b. Reading interest for KIA book before KIE

The results of the analysis of the frequency distribution of reading interest for KIA book prior to KIE, can be seen in the following table.

Table 4.6 Frequency distribution of KIA book reading interest prior to KIE

Interest	Control Group		Intervention Group	
	Amount (n)	Percentage (%)	Amount (n)	Percentage (%)
High	4	13,3	6	20
Medium	16	53,3	17	56,7
Low	10	33,3	7	23,3
Total	30	100	30	100

Interpretation: Table 4.6 shows both in the control group and the intervention group that the largest percentage of KIA book reading interest prior to KIE is in medium category.

c. Knowledge about KIA book after KIE

The results of the analysis of the frequency distribution of maternal knowledge about KIA book after KIE, can be seen in the following table.

Table 4.7 Frequency distribution of knowledge about KIA book after KIE

Knowledge	Control Group		Intervention Group	
	Amount (n)	Percentage (%)	Amount (n)	Percentage (%)
Good	4	13,3	25	83,3
Fair	20	66,7	5	16,7
Poor	6	20	0	0
Total	30	100	30	100

Interpretation:Table 4.7 shows thatthe largest percentage in the control group is in fair category (66.7%), whereas in the intervention group of the largest percentage is in good category (83.3%).

d. KIA book reading interest prior to KIE

The results of the analysis of the frequency distribution of KIA book reading interest after KIE can be seen in the following table.

Table 4.8 Frequency distribution of KIA book reading interest afterKIE

Interest	Control Group		Intervention Group	
	Amount (n)	Percentage (%)	Amount (n)	Percentage (%)
High	4	13,3	22	73,3
Medium	20	66,7	8	26,7
Low	6	20	0	0
Total	30	100	30	100

Interpretation:Table 4.8 shows the second measurement of KIA book reading interest in the intervention group is in medium category (66.7%), whereas in the intervention group after KIEis at the high category (73.3%).

e. The difference of knowledge in the First and Second Measurement in Control Group

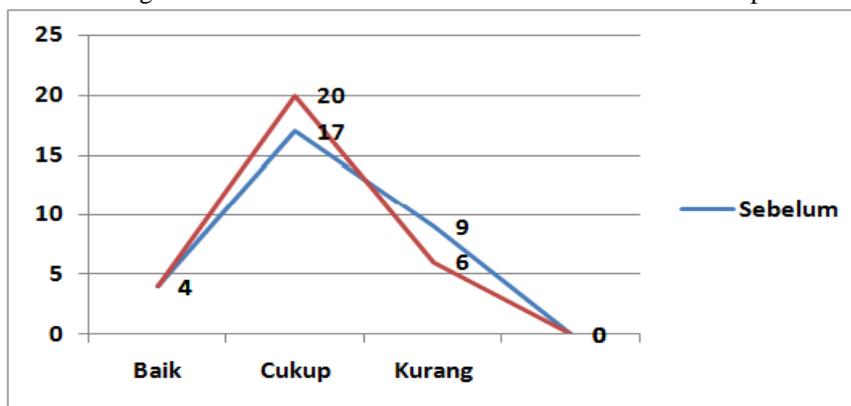


Figure 4.1The difference of knowledge about KIA book between first and second measurements on Control Group in Batu City in October 2014

Interpretation:Figure 4.1 shows the women's knowledge about the KIA book in control group on first measurement is in fair category (17 people), the second measurement in fair category has an increase in percentage (20 people). While the good category remains the same.

f. The difference of Knowledge before and after KIE on Intervention Group.

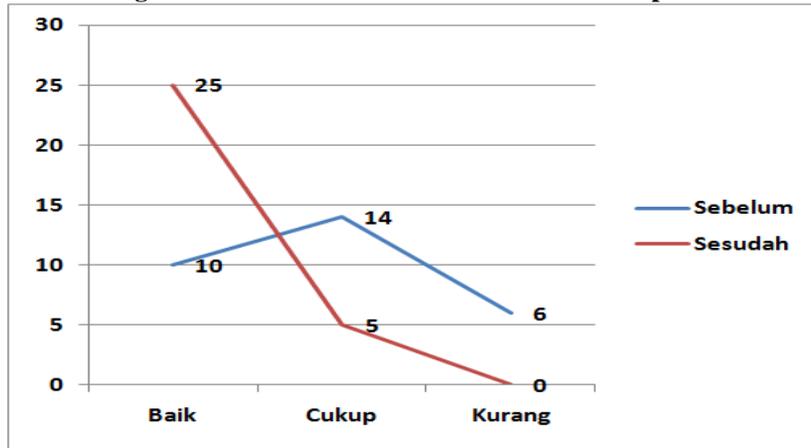


Figure 4.2 The difference of Knowledge before and after KIE on Intervention Group in Batu City, Oktober 2014
Interpretation: Figure 4.2 shows women’s knowledge about KIA book on intervention group before KIE is still in poor category, after KIE all pregnant women know about KIA book.

The interest difference between the first and second measurement on control group

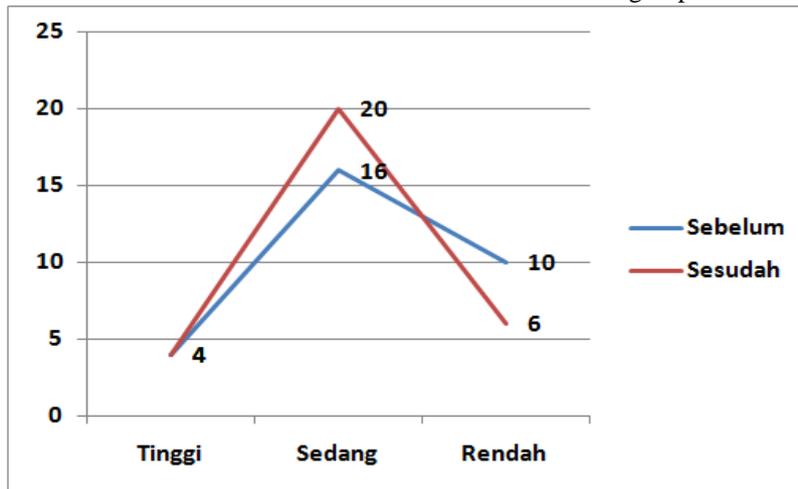


Figure 4.3 The interest difference between the first and second measurement on control group

Interpretation: Figure 4.3 KIA book reading interest on the first and second measurement is mostly in the medium category, but on the second measurement, the medium category increased from 16 people to 20 people.

h. Interest difference before and after KIE on Intervention Group.

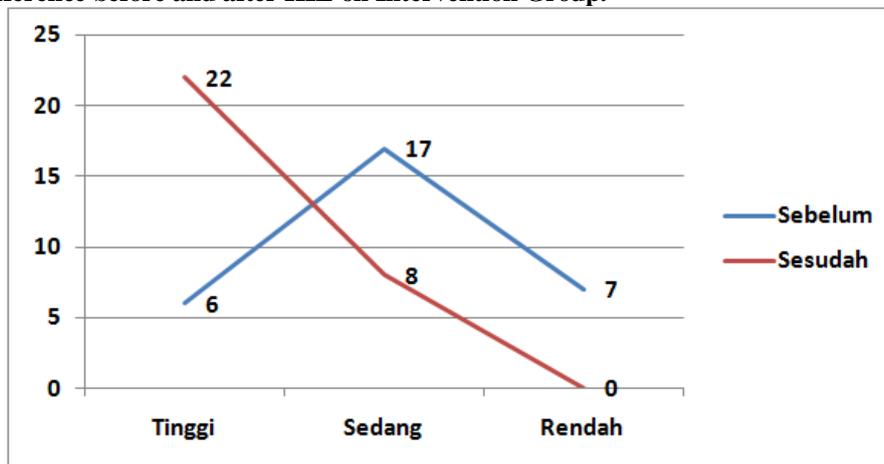


Figure 4.4 Interest difference before and after KIE on Intervention Group.

Interpretation:Figure 4.4 KIA book reading interest prior to KIE is still in low category, after KIE no one shows low interest in reading KIA book.

i. Cross-tabulation of KIA book knowledge and KIA book reading interest on the first measurement.

Table 4.9 Cross Tabulation of Knowledge and KIA book reading interest on the first measurement In Control Group in Batu city, October 2014

Knowledge	Interest					
	High		Medium		Low	
	(n)	(%)	(n)	(%)	(n)	(%)
Good	0	0	0	0	0	0
Fair	3	10	14	46,7	0	0
Poor	7	23,3	2	6,7	4	13,3
Total	10	33,3	16	53,4	4	13,3

Interpretation:Table 4.9 The first measurement on control group showed that when the knowledge of KIA book is poor, then the interest tendency is also low to read KIA book.

j. Cross tabulation of knowledge and KIA book reading interest on second measurement in Control Group in Batu city, October 2014

Table 4.10 Cross tabulation of knowledge and KIA book reading interest on second measurement in Control Group in Batu city, October 2014

Knowledge	Interest					
	High		Medium		Low	
	(n)	(%)	(n)	(%)	(n)	(%)
Good	0	0	0	0	0	0
Fair	3	10	17	56,7	0	0
Poor	3	10	3	10	4	13,3
Total	6	20	20	66,7	4	13,3

Interpretation:Table 4.10 Thesecond measurement in the control group also showed that if the knowledge about KIA book is poor, then the reading interest is also low to read it.

k. Cross tabulation between Knowledge and KIA reading interest prior to KIE in Batu city in October 2014

Table 4.11 Cross tabulation between Knowledge and KIA reading interest prior to KIE on intervention group in Batu city in October 2014

Knowledge	Interest					
	High		Medium		Low	
	(n)	(%)	(n)	(%)	(n)	(%)
Good	5	16,7	5	16,7	0	0
Fair	3	10	11	36,7	0	0
Poor	1	3,3	1	3,3	4	13,3
Total	9	30	17	56,7	4	13,3

Interpretation:Table 4.11 prior to KIE on KIA book shows that if the knowledge about KIA book KIA is low, then the interest tendency is also low to read it.

l. Cross tabulation between Knowledge and KIA book reading interest after KIE in Batu city, October 2014

Table 4.12 Cross tabulation between Knowledge and KIA book reading interest after KIE on intervention group in Batu city, October 2014

Knowledge	Interest					
	High		Medium		Low	
	(n)	(%)	(n)	(%)	(n)	(%)
Good	20	66,7	2	6,7	0	0
Fair	5	16,7	3	10	0	0
Poor	0	0	0	0	0	0
Total	25	83,4	5	16,6	0	0

Interpretation:Table 4.12 Having given KIE on KIA book resulting in improvement, if the knowledge about KIA book is good, then the interest tends to be high to read KIA book.

b. Bivariate analysis

The results of statistical analysis of the effectiveness of KIE on KIA book on women's knowledge and interest. Statistical results using independent test samples in the group which were not given KIE on KIA book got a significant value of $0.675 > 0.5$. While the group given KIE gained significant value of $0.001 < 0.5$. It shows that effective KIE can change knowledge about KIA book and KIA book reading interest. To find out whether KIE is more effective to change the knowledge or interest seen from the mean difference, KIE effectiveness test result on knowledge gets a mean difference of 12.063. KIE effectiveness test result on interest gets a mean difference of 9.533. The results show that the mean difference value of knowledge is higher than the interest, so that it can be concluded that KIE on KIA book more effective to improve knowledge.

IV. Discussion

The results of statistical tests using independent sample test showed that the KIE can effectively increase knowledge and interest about KIA book. Administering an effective and multiple KIE will be able to change the mother's knowledge and interest in reading KIA book. Giving KIE has contributed to an increase in the category of knowledge in good and fair categories, about the contents of the book. Also in the increase of interest to read KIA book ranging from medium to high category. However, there is a tendency that the effectiveness of KIE is more visible to the improvement of the knowledge in comparison with improving the interest, this is because the KIE stages started from awareness, interest, evaluation, trial. By administering KIE on KIA book in advance, all women will firstly know about KIA book, then they will be interested to know more in depth because indirectly they will think that the content of the book is important, finally they will be interested to read the book.

KIE emphasizes togetherness with society. Along with the pregnant women, researchers studied some important aspects, understanding what they do, need and want in accordance with the content of KIA book. The researcher also provides interesting alternatives for risky behaviors such as by reading KIA book then they will know when to do ante natal care regularly, so it will be easier to perform early detection of complications during pregnancy. Doing KIE means providing communication, information and health education. KIE is not only related to the communication of information, but also associated with the adoption of knowledge, interest or motivation, skills, and confidence to take steps to improve health. KIE leading to hear and see directly, actively involved in the KIE topic. The direct target is to hear and see what being informed. By that, it is expected that the targets will be able to use their reasoning, remembering that KIE materials including recalling special materials from all materials in KIE. In the end, targets can explain, give examples, and summarize what has been given by KIE, in other words they can acquire and transform knowledge better and become more motivated after having good knowledge about KIA book, and they will be motivated to read it.

Reading interest is a spirit that drives someone to do something to read. Reading interest is indicated by a strong desire to read. From the definition of interest above, it gives the sense that the interest can focus our attention where it highlights sense and attention as if it accentuates the mind functions. This confirms that what interests us causes our attention. People who have a high interest in reading always fill their leisure time with reading. Many new things and who can be discovered by reading which will automatically increase the knowledge of reading material being read, and vice versa. Pregnant women who have a high interest in reading KIA book will be attracted to read KIA book. They will always take time to read it and their knowledge will increase. With the increased knowledge, higher interest will also appear. It means that after KIE, the women have a tendency to be more aware of KIA book, there is a strong interest and encouragement to read the book. With frequent reading, they will know, understand and comprehend the content of the book so that when they are asked to explain about the health of pregnant women, they will be able to express it well. Those who do not have an interest to read the book will not understand about the health of pregnant women.

In this study, pregnant women who have a high interest in reading always fill their leisure time with reading. Many new things and knowledge are discovered by reading which will automatically increase the knowledge of the reading material, in this case the materials from KIA book. They who have a high interest in reading the book will have feelings of attraction and attention to it. They will always take the time to read books and the knowledge will be increased.

From the above results it can be concluded that the provision of effective KIE will increase knowledge, interest, and increasing their attention. People who have a high interest in reading will have a high awareness to read something so that the knowledge gained will be much. Provision of KIE increases reading interest, a lot of new things and knowledge will be discovered. By reading KIA book, the expectant mothers will know how to make early detection of dangerous signs in pregnancy, childbirth, during childbirth, babies, toddlers and children. They will know about the health of pregnant women. Therefore, by knowing the health during pregnancy can help reduce maternal morbidity and mortality during pregnancy.

V. Conclusion And Recommendation

Conclusion

1. Prior to KIE on KIA book, the knowledge of pregnant women is in fair category, and the interest is in medium category.
2. Having given KIE on KIA book, the knowledge percentage increases. The highest one is in good category and no one in poor category. The largest percentage of interest is in the high category and none in the low category.
3. Provision of KIE on KIA book can effectively increase knowledge and interest in KIA book, and there is a tendency that the provision of KIE is more effective to increase knowledge, because of the initial stages of KIE. With the provision of KIE, the mothers will be able to see, hear, and engage actively to the information given so that there is a tendency better knowledge and higher interest about the content of KIA book.

Pregnant women who have a high interest in reading will have a high awareness for reading KIA book to gain knowledge about the health of pregnant women while those with low maternal interest in reading there has a tendency of not knowing about the health of pregnant women. By having high interest in reading KIA book, they will know a lot about the health of pregnant women so that they can maintain a healthy pregnancy and indirectly help to reduce morbidity and mortality due to pregnancy.

Recommendation

For research location

Due to the knowledge of and interest in reading KIA book KIA are still in poor and low category especially those in the group with no KIE, it must further improve KIE to all pregnant women to increase knowledge about the book and encourage interest in reading it, to be able to detect early problems that may arise during pregnancy, childbirth, postpartum, infants, toddlers and children in order to help reduce morbidity and mortality in mothers, infants, toddlers and children.

For pregnant women

It is expected that pregnant women should not assume that KIA book is a book that only taken during antenatal care, but they are advised to read it because it contains important information that can detect early any problems especially during pregnancy, childbirth, and postpartum.

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