Utilization of the Maternal and Child Health (MCH) book and knowledge on its functions are not yet maximized by mothers in Kalibagor Village. The indicator showing the MCH book coverage are still below from target, the value being about 65% on October 2009. The MCH book functions are: a means of recording maternal and child, a communication and education tool for health worker and mothers. This research aims to improve maternal knowledge about utilization of MCH book. This research is a quasi-experiment study designed to be applied for a group, tested before and after a leaflet administration about how to use MCH book (pre- and post-test). The target group of population is represented by mothers in Kalibagor Village. The group selected for this study includes 60 mothers from two integrated health centers. They are Puspinasari and Watuge integrated health centers. Results obtained by applying the educational leaflets show an improving in terms of mothers’ knowledge (in Puspinasari) of 9.53% and an increase of mothers’ knowledge (in Watuge) of 20.48%. There are significant differences on mothers’ knowledge about utilization and function of MCH book.

Keywords: health promotion, knowledge, use of MCH book

METHOD

This research is a quasi-experiment study designed for comparing the mothers knowledge on the content of the book as well as the function of the utilization of MCH books before and after giving leaflet to mothers. Leaflets contain information about the utilization and functions of MCH book.
The target population in this activity was mothers in the Kalibagor Village. There are Watugede and Puspitasari integrated health post. The total number of mothers from region is 60. Mothers received explanatory information on intervention and benefits of using the MCH book, by a leaflet contained neede information.

The media support used in conveying the health message is a leaflet containing information about the use of the book covers the function of MCH and MCH complete contents utilization and fuctions of the MCH book.

The evaluation design used in this activity include the utilization of an instrument to determine the achievement of predetermined outcomes, respectively a questionnaire that lists closed questions to determine the increase in maternal knowledge about the functions and benefits of the use of MCH books. A pre-test and post-test evaluation was used, data being collected using a questionnaire filled by mothers. This questionnaire was designed as a structured questionnaire with precoded closed and open-ended questions in function of the maternal and child health book utilization; the same questionnaire was applied before and after leaflet was gave to mother.

For this research it was used both univariate and bivariate analysis. Univariate analysis was used to evaluate the level of knowledge about the functions and utilization of MCH book. Bivariate analysis was used in order to determine the effect of health education using the media leaflets against the mother's knowledge on the functions and the utilization of MCH book. The statistical test used for comparison is the paired t-test. All statistics indicators was considered significant for a p value <0.05, so that it can be shown if there is any significant differences in maternal knowledge about the benefits of functions of MCH book.

**Table 1 - Results Test different grades pre-test-post-test benefits MCH book**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score</th>
<th>Mean</th>
<th>Test analysis</th>
<th>P value</th>
<th>Alpha value</th>
<th>conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre test-Post test</td>
<td>7.55</td>
<td>8.27</td>
<td>t test</td>
<td>0.000</td>
<td>0.05</td>
<td>There is difference in knowledge</td>
</tr>
</tbody>
</table>

**Table 2 - Results Test different grades pre-test-post-test benefits KIA book**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score</th>
<th>Mean</th>
<th>Test analysis</th>
<th>P value</th>
<th>Alpha value</th>
<th>conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre test-Post test</td>
<td>5.59</td>
<td>7.38</td>
<td>t test</td>
<td>0.000</td>
<td>0.05</td>
<td>There is difference in knowledge</td>
</tr>
</tbody>
</table>

Results of comparative analysis (statistical paired t-test) show that there is a significant difference in mothers knowledge on benefits of using and knowing the functions of MCH book, before and after applying the leaflet (p value=0.000, respectively p<0.05)

Based on the mothers knowledge results on the functions of MCH book in Watugede/Posyandu community health integrated, a pre-test mean score of 6.54 was calculated and a post-test mean score of 7.88 was obtained. From these results, it can be concluded that an increase of 1.34 points was obtained after applying the leaflet. The indicator for measuring the level of improving in mothers knowledge is calculated as follows:

\[(\text{Post-test})-(\text{pre-test})\times 100\% = \frac{(\text{pre-test})}{(7.88-6.54)\times 100\% = 20.48\%}{6.54}\]

**RESULT AND DISCUSION**

Based on the results of pretest (mean score of 7.55) and of post-test (mean score of 8.27), it can be underlined that there is an improving of Puspitasari/Posyandu mothers knowledge on functions and utilization of MCH book of 0.72 points. That means an improving with about 10% (respectively 9.53%).

The indicator for measuring the level of improving in mothers knowledge is calculated as follows:

\[(\text{Post-test})-(\text{pre-test})\times 100\% = \frac{(\text{pre-test})}{(8.27-7.55)\times 100\% = 9.53\%}{7.55}\]

Similar to evaluation from Puspitasari/Posyandu helath centers, for health centers from Watugede/Posyandu results of the comparative analysis (statistical paired t-test) show that there is a significant difference in mothers knowledge on benefits of using and knowing the functions of MCH book, before and after applying the leaflet (p value=0.000, respectively p<0.05)

Health promotion media are educational tools that are used to deliver educational/teaching materials. The leaflet is one of the print media methods [5]. Leaflet is a form for delivery information or health messages through a folded sheet. The usefulness and advantages of the leaflets: is simple and very inexpensive, clients can adjust and learn independently, users can see the contents at leisure times, and information can be shared with family and friends. Leaflets can also provide details (eg statistics) that are not possible when delivered orally. Leaflets that form the delivery of information or health messages through a folded sheet. Information content can be in the form of a sentence or a picture or a combination. Expected effects of
leaflet using: print media that is durable because it can be read over and over again covering a lot of people that have better credibility in the community, the cost is not high, do not need electricity, can be brought everywhere, easy to be understand, increase the excitement of learning for more detailed information. Unexpected effects: print media that cannot stimulate sound and motion effects, easily folded and torn [6].

Using leaflets media has the advantage that the message can be read over and over again. MCH books utilization functions can be delivered through leaflets that mothers understand clearly the functions and utilization of MCH book. Family will also be able to understand the use of the MCH book so that the three MCH book function (function of recording, function of education and function of communication) can be maximized.

Health education using leaflets is appropriately used for mothers from the village Kalibagor. Accordingly with results of a study on how dangers is smoking for children and on utility of using leaflet as an efficient media tool for health promotion among students in primary school, health education promoted by leaflet is efficient on knowledge of primary school students[7]. Further research were carried on to improve knowledge of health education on abortion by using the medium of film / video, which is more effectively used in high school adolescent [8].

The utilization of MCH book can be checked if mother brings the MCH book when use a health service and a health worker records data of MCH book after provides health care to mother and her child. Health worker especially midwives still offers a conclusion about mother and health status and then reports data to health office. [9].

Midwives support mothers in using the MCH book and help for improving MCH due to the fact that MCH book is full of needed information. To a successful implementation of MCH programme in Indonesia, and for a good utilization of MCH book, it is need of a voluntary participation for health, on behalf of midwives [10-11].

Utilization of MCH book is related to the knowledge about functions of MCH book, this would mean that, if a good level of utilization was not obtained, it is possible that a low level of knowledge about the functions of MCH book to produce this.

The accomplish of the voluntary for health role consists in checking the completeness filling in the MCH book at the time giving services in community health care [12].

Utilization of the MCH book is an attempt to get a listing of the status of maternal and child health so that a maximum benefit for the recording function to be obtained. KIA book has an obvious economic plus-value than the mother's health record and a separate children's health record [13].

Educational leaflet can be effective to improve knowledge about sleep among adolescent young from high school. This method is more effective in female adolescent [14]. This research was conducted for mothers (female), so it is expected by using leaflet to more effective target the population. It is also expected obtaining an improving in mothers knowledge among mothers having a MCH book in comparison with mother as control population that did not got a MCH book [15].

Improvement in knowledge and skill must be delivered also for volunteer/health worker. Actually it is need for a more feedback provided to mothers about utilization health service, for a refreshing training course of urban community health volunteer in order to increase their knowledge and skills. Based on research results there is a relationship between knowledge and the role of volunteer in the utilization of the MCH book [16].

Further research in midwifes population has identified a relationship between supervised utilization of MCH book and the role of midwifes in utilization of the MCH book [17]. From this results it can be concluded that it is a need for supporting the utilization of MCH book, because the health worker/volunteer did not encourage mothers to bringing the MCH book and did not check the completeness of the MCH book every time. The health worker must must remember mothers to bring the MCH book and explain the functions of the MCH book. Leaflet provides the information for utilization of MCH book, being in this context a replacing tool for one of the health worker role (to remember and explain the functions and utilization of the MCH book).

There is a relationship between the registration function of the MCH and the knowledge. Completeness assessment of the MCH book still have not found the target; results on records made by health workers: 82.4% of postpartum care was recorded, 100% of family planning services was not recorded, neonates examination >93.4%, records of disease and development of children as many as 89.7%, as well as stickers delivery planning and prevention of complications 58% has not been completed [18]. Providing information about the importance of the use of the functions of the MCH book is a basic component so that the mother is able to play the role to check the completeness of the contents of books and utilize MCH book as a way for communication with health professionals.

According Akhund et al, it was stated that the use of the handbook of the ANC (AnteNatal Care) by the mother is one of the interventions in improving information. Complete recording will support the improvement of mothers' knowledge of health maternal and their children [19].

Akiko research results in Palestine showed that mothers having a MCH book make more frequent visits to health care than mothers who do not have a MCH book [19]. Mothers who have understood the importance of MCH book becomes more familiar to utilize KIA book when accessing health care. Health education leaflets would be beneficial to the media in health education efforts on maternal and child health. Mothers will better
understand the type of service that can be accessed if the mother feels the need of MCH services. MCH book become an effective tool in providing information services in the community MCH. Its utilization is estimated nationally; MCH book yet reached all pregnant women and infants. It is confirmed that the use of the MCH book is still not equal distributed in all regions in Indonesia.

CONCLUSION
From the results of this activity, it can be highlighted that there are significant differences in mother knowledge about the benefits of using MCH book before and after leaflet administration, so that it can be concluded that there is an improving in mothers knowledge about the functions and benefits of using the MCH book.

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