Success rate of my health report books filling training in elementary school of Surabaya and Gresik

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Abstract

Background: Childhood nutritional status persists as a major public health problem in Indonesia. Thus, school-based health screening and reporting as a tool to prevent and reduce morbidity is needed. The report includes in-depth medical history, nutritional status of students, measurement of body weight and height, habits, problems during puberty, mental health, and the understanding of the report card benefits. Aims: This study aims to determine the success rate of reporting training of My Health Report Book for the elementary school in Surabaya City and Gresik Regency. Settings and Design: This is One-Group Pretest-Posttest Design research, with 45 subjects at Surabaya and Gresik primary school and the data were analyzed by using descriptive statistics. Methods and Material: A questionnaires is used as research instruments. Statistical analysis used: SPSS 25.

Results: The result shows total Score for the pretest 66.89 ± 18.318, while the posttest 79.56 ± 15,948. The average answer was 67.1% and 32.9% were wrong for the pretest and 79.6% and 20.4% is wrong for the posttest. There is a significant difference in the value of the total score between pretest and posttest (p = 0,000). Conclusions: Based on the results of the pre and post test questionnaire analysis, it is found that the health report card filling training for elementary school level in Surabaya City and Gresik Regency was successful.

Keywords: Reporting Training, Health Report Book, Health Report Card, Elementary School
Key Messages:

Health report card filling may be used as school-based health screening and reporting as a tool to prevent and reduce morbidity. It may as well as collect data on childhood nutritional status to prevent major public health problem that occurred in Indonesia.


Introduction

The Indonesian Ministry of Health launched the My Health Report Book (RK book) program in 2015 as an effort to improve children's behaviour, lifestyles from an early age and children's health/nutritional status through improved knowledge. My Health Report Book Health Report Series contains student health record or data sheets from the results of health services in schools, puskesmas/health facilities, which are needed in further monitoring if necessary. This book is accompanied by the Health Report Card Book of the Health Information series which contains various information related to the health and development of students.¹

The RK Book Program is designed to be implemented in all provinces in Indonesia. One of the legal bases for implementing the RK book is the SPM in the health sector which states that district/city governments are obliged to provide basic health services, one of which is health screening according to standards for children of primary education age (grade 1 and grade 7) and one of the health screening activities is RK's book distribution²

The RK Book Program aims to record the childhood nutritional status as it persists as a major public health problem in Indonesia. As we know, early childhood is often called the golden age that is an active individual with rapid growth and development so the nutritional needs must be met and balanced. Nationally in Indonesia, the prevalence of malnutrition in 2013 is 19.6%, consisting of 5.7% malnutrition and 13.9% less nutrition.³ Results from Basic Health Research in 2007 to 2013 showed appalling fact that under-weight in Indonesia increased from 18.4% to 19.6%, stunting also increased from 36.8% to 37.2%, while wasting decreased from 13.6% to 12.1%. According to WHO, the prevalence of stunting became a public health problem if prevalence is 20% or more⁴.

The percentage of children with a low height for age (stunting) reflects the cumulative effects of undernutrition and infections since and even before birth. This measure can therefore be interpreted as an indication of poor environmental conditions or long-term restriction of a child's growth potential. The percentage of children who have low weight for age (underweight) can reflect ‘wasting’ (i.e. low
weight for height), indicating acute weight loss, ‘stunting’, or both. Thus, ‘underweight’ is a composite indicator and may therefore be difficult to interpret.\textsuperscript{5}

Childhood nutritional status indicators are used to measure nutritional imbalance resulting in undernutrition (assessed from underweight, wasting and stunting) and overweight. Child growth is internationally recognized as an important indicator of nutritional status and health in populations.\textsuperscript{5}

Whereas routine child health check-ups have been developed and implemented for children under the age of five in many countries, standards of care for older children are less defined.\textsuperscript{6}Schools offer a unique platform for health care delivery. In 2015, the global means for the primary and secondary net school enrolment rates were 90\% and 65\%, respectively, thus the potential reach of school health services is wide.\textsuperscript{7}

However, since the ministry of health in Indonesia launched the RK book in 2015, there has been small number of research that has examined the extent of the implementation of the RK book. Therefore, research is needed to see how the implementation and description of the knowledge, attitudes and behaviour of students related to the material of the RK book. In this study, we assess the extent to which RK book has been understood by the students, this study act as the first step of our research series on implementing the RK book into mobile application that is easier to carry with our aims of higher compliance in reporting the health data.

**Subjects and Methods**

This study was conducted in primary schools located in Surabaya and Gresik area, as the representative of urban and rural area in east java. This study use the pre-experimental research method with the pre-post design, with 45 subjects, 22 from urban and 23 from rural primary school. A questionnaire is used as research instruments. The data include medical history, nutritional status of students, measurement of body weight and height, habits, problems during puberty, mental health, and the understanding of the report card benefits. SPSS 25 was used to analysed the data.

**Study design**

A prospective matched control study was used to understand the student perception and knowledge on the RK book. The study was done in two steps. In the first step, primary schools from Gresik and Surabaya were selected by the researcher, and was performed a pre-test before the intervention. In the second step, after the intervention given to each of the school, elementary students (subjects) were given training to fill out my health book, as well as explanations about the importance of the RK Book, this training program act as the intervention given to participant of this study. After the
intervention, each of the participant was given a post-test of 10 questions that were the same as the pre-test. The graphical methods are shown in Figure 1.

**Figure 1. Study Design (T0 for pretest, T1 for post test)**

The content component of the pre-test and post-test questions is an understanding of 1) Method on finding the child's/student's medical history 2) Determining the nutritional status of students 3) Measuring body weight and height 4) Lifestyle reporting by filling the my health report books 5) The purpose of measuring nutritional status 6) one of the problems of puberty in female students 7) one of the problems of puberty in male students 8) Questionnaires used to measure students’ mental health 9) Benefits of my health report books 10) Benefits of my health report books information

**Results**

The result shows total score for the pre-test 66.89 ± 18.318, while the post-test 79.56 ± 15.948. From all the 10 question, the average answer was 67.1% and 32.9% were wrong for the pre-test and 79.6% and 20.4% is wrong for the post-test. There is a significant difference in the value of the total score between pre-test and post-test (p = 0.000). Table 1 and Table 2 shows the significance of each variable in before and after the training.

**Table 1. Pre-test and Post-test score for each variable**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Before Training</th>
<th></th>
<th>After Training</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wrong</td>
<td>Correct</td>
<td>Wrong</td>
<td>Correct</td>
</tr>
<tr>
<td>Method on finding the child's/student's medical history</td>
<td>9</td>
<td>20.0</td>
<td>36</td>
<td>80.0</td>
</tr>
<tr>
<td>Determining the nutritional status of students</td>
<td>22</td>
<td>48.9</td>
<td>23</td>
<td>51.1</td>
</tr>
<tr>
<td>Measuring body weight and height</td>
<td>23</td>
<td>51.1</td>
<td>22</td>
<td>48.9</td>
</tr>
<tr>
<td>Lifestyle reporting by filling the my health report books</td>
<td>8</td>
<td>17.8</td>
<td>37</td>
<td>82.2</td>
</tr>
<tr>
<td>The purpose of measuring nutritional status</td>
<td>8</td>
<td>17.8</td>
<td>37</td>
<td>82.2</td>
</tr>
<tr>
<td>The problems of puberty in female students</td>
<td>11</td>
<td>24.4</td>
<td>34</td>
<td>75.6</td>
</tr>
<tr>
<td>The problems of puberty in male students</td>
<td>8</td>
<td>17.8</td>
<td>37</td>
<td>82.2</td>
</tr>
<tr>
<td>Questionnaires used to measure students’ mental health</td>
<td>30</td>
<td>66.7</td>
<td>15</td>
<td>33.3</td>
</tr>
<tr>
<td>Benefits of my health report books</td>
<td>2</td>
<td>4.4</td>
<td>43</td>
<td>95.6</td>
</tr>
<tr>
<td>Benefits of my health report books information</td>
<td>27</td>
<td>60.0</td>
<td>18</td>
<td>40.0</td>
</tr>
</tbody>
</table>
Table 1 shows the score for each variable. The post-test result shows that there is an improvement in the scores of each participant about the RK book. Total score for the pre-test 66.89 ± 18.318, while the post-test 79.56 ± 15.948. This means that the training increase the knowledge of participation towards each variable, namely 1) Method on finding the child's/student's medical history 2) Determining the nutritional status of students 3) Measuring body weight and height 4) Lifestyle reporting by filling the my health report books 5) The purpose of measuring nutritional status 6) one of the problems of puberty in female students 7) one of the problems of puberty in male students 8) Questionnaires used to measure students' mental health 9) Benefits of my health report books 10) Benefits of my health report books information. The significance of each variable is shown in the table 2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>p</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method on finding the child's/student's medical history</td>
<td>0.727</td>
<td>Not significant</td>
</tr>
<tr>
<td>Determining the nutritional status of students</td>
<td>0.125</td>
<td>Not significant</td>
</tr>
<tr>
<td>Measuring body weight and height</td>
<td>0.002</td>
<td>Significant</td>
</tr>
<tr>
<td>Lifestyle reporting by filling the my health report books</td>
<td>0.375</td>
<td>Not significant</td>
</tr>
<tr>
<td>The purpose of measuring nutritional status</td>
<td>0.344</td>
<td>Not significant</td>
</tr>
<tr>
<td>The problems of puberty in female students</td>
<td>0.180</td>
<td>Not significant</td>
</tr>
<tr>
<td>The problems of puberty in male students</td>
<td>0.344</td>
<td>Not significant</td>
</tr>
<tr>
<td>Questionnaires used to measure students’ mental health</td>
<td>0.002</td>
<td>Significant</td>
</tr>
<tr>
<td>Benefits of my health report books</td>
<td>0.5</td>
<td>Not significant</td>
</tr>
<tr>
<td>Benefits of my health report books information</td>
<td>0.004</td>
<td>Significant</td>
</tr>
</tbody>
</table>

The pre-test and post-test shows that the knowledge of RK Book in the variable of measuring body weight and height and that it act as questionnaires used to measure students' mental health resulted in significant difference. While the total score shows improvement, it means that the training has resulted in better knowledge about these 2 variable. As other variable shows no significant result, means that before the training, the participant has already has the knowledge for the variables about RK Book.

Discussion

The question used for pre-test and post-test was chosen to find out the students' understanding of the function of the health report book, it is expected that there will be compliance both in the filling process and student reporting, if the students understand the underlying process and
has knowledge about the RK book. Surabaya and Gresik Regency are areas that have implemented a mentoring program for school health unit (UKS). Some schools have complete health records in UKS activities, but some schools do not have a good health record. This condition causes obstacles in the process of integrating health record data between schools. Integrated and continuous health records will be able to describe the health status of students.

Schools are the only institution regularly reaching the majority of school-age children and adolescents across the globe. Although at least 102 countries have school health services, there is no rigorous, evidence-based guidance on which school health services are effective and should be implemented in schools. The implementation of school-based health measurements can have various objectives. One being surveillance which is to identify the percentage of students in a population who are at risk for a particular disease or health condition. This information may assist planning of various preventive interventions at the school population level. Or, measurement can also be done for screening purposes which is to assess individual students for risk factors that may lead to detrimental health outcomes. Results and information are then provided to the at-risk students and their parents with guidance for corrective action.

Key questions still need to be addressed including the effectiveness of screening, optimal ages and intervals for screening children, cost-effectiveness of screening, or the effects of treatment in childhood outcomes following positive screening results. Also, consideration must be given to the fact that populations may vary and what has been proven effective for a particular group may not give the same results when applied to a different community. Hence, we recommends that before implementing a school-based screening program, the proposed initiative should be grounded in population health evidence and it should be determined that it will not cause inadvertent harm. This also means that there has to be a test that is comprehensive enough so that the results obtained are sufficiently in accordance with the conditions in the field. The hope is, with appropriate results, it can provide an overview of the condition of the nutritional status of children.

Based on the results of the pre and post test questionnaire analysis, it is found that the health report card filling training for elementary school level in Surabaya City and Gresik Regency was successful. This study explores the students’ understanding of the filling process, knowledge and the context of the material in the health report book that have been created. Through this study, we found that if universal screening data with similar indicators of functioning is collected by a variety of schools and districts throughout the community, using school health report book, it may leading to the creation of local norms, insight can easily be gleaned into the particular level of interventions needed.

As for this study has shown good result, it is expected that especially during this pandemic and millennial era, the RK book may shifted into mobile application. The global mobile health
(mHealth) application (app) market has been growing at a tremendous rate, and it is expected to continue to flourish.\textsuperscript{10} These mHealth apps provide quick and easy access, transfer, and tracking of health information as well as interactive displays and interventions that can allow users to be highly engaged in promoting health outcomes and changing health-related behaviors.\textsuperscript{11} Thus, health-related apps have a great potential to aid a wide range of target audiences with a variety of health issues.\textsuperscript{12} This study also conclude that the next research in our research series outlines the importance of a collaborative, comprehensive approach to screening using the tools that has been created (RK Book) into the RK Mobile application, as it has been proven that student able to understand and has knowledge about each of variable representing the importance of RK book program implemented by the ministry of health.

References

8. World Bank Open Data [Internet]. Available: https://data.worldbank.org/?year_high_desc=false