Empowerment of Santri’s Healthy Lifestyle in Salafi and Modern Islamic Boarding School through Knowledge of Probiotic Food and Beverages

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Abstract: This empowerment is related explicitly to empowering the healthy lifestyle of students in Salafi and modern Islamic boarding schools through knowledge about probiotic food and drinks. This empowerment was carried out for one month, from January 2023 to February 2023. The location of this empowerment was Islamic boarding schools, both Salafi and modern, in Pemalang Regency and Tegal Regency. Data collection techniques in this study will be carried out using questionnaires and test instruments in the form of questions related to the problem. Data processing was carried out quantitatively through statistical tests and qualitatively. For quantitative data processing, statistical tests were used: The test applied was hypothesis testing through the chi-square distribution and hypothesis testing using the Kolmogorov-Smirnov method. This community empowerment includes several steps or activity procedures carried out as follows: Entrance, Diagnosis, Action Planning, Intervention (Action taking), Evaluation (Assessment), Reflection, and Exit. The results of empowering students in both Salafi and modern Islamic boarding schools can make them adopt a healthy lifestyle through probiotic food and drink accompanied by a holistic understanding of probiotics. Henceforth, these students can pass on this empowerment to other students through the application of peer-tutors.

Keywords: Empowerment, Islamic Boarding School, Probiotic, Student


Kata Kunci: Pemberdayaan, Pondok Pesantren, Probiotik, Santri

Introduction

Islamic boarding schools are a unique system. Not only in its learning approach but also in its unique way of life and values, the way of life adopted, the structure of division of authority, and all other educational and social aspects (Jauhari, 2017). Islamic boarding schools are Islamic educational institutions equipped with dormitory facilities as a place to live for students (students) (Komariah, 2016). Initially, Islamic boarding schools were educational institutions with simple management and only religious material. Later, Islamic boarding schools were included in the national education sub-system, so they had to follow government regulations (Zulhimma, 2013).

Islamic boarding schools must have several capabilities: First, the ability to survive amid ongoing change and competition (Maesaroh & Achdiani, 2017). Second, the ability to improve the quality of life, both physically and spiritually. Third, the ability to develop and adapt to the changing demands of the times (Bashori, 2017). Fourth, the ability to place oneself in an essential position in the national education system. Fifth, the ability to make a moral contribution is the crucial capital in national development (Ni’amillah, 2013). The curriculum in Islamic boarding schools tends to be fine arts, physical education activities, military training, technical knowledge, vocational training, and foreign languages for individuals and those with the willingness, talent, and desire (Ma’arif, 2017).

Islamic boarding schools are religious institutions that conduct social engineering or community development. This role can only be carried out if the pesantren can maintain good traditions while adapting new scientific results that are better to play the role of agents of change (Syafe’l, 2017). Various typologies of pesantren show the diversity of pesantren in responding to the times. Salaf Islamic boarding schools try to maintain their position as religious educational institutions, while khalaf and semi-modern education are starting to open to general scholarship as a provision for students facing increasingly advanced world developments (Nihwan & Paisun, 2019).

In general, Islamic boarding schools are divided into two groups or sections: the first is a Salafi Islamic boarding school, and the second is a Modern Islamic boarding school (Rasyid, 2020). A salafiyah Islamic boarding school is a place to live in the form of a dormitory for a santri who studies Islamic religious sciences with a kiai and several ustadz in an area using the band organ, slogan, memorization, and deliberation teaching methods (Susanto & Muzakki, 2016). At the same time, modern Islamic boarding schools have
Empowerment of Santri’s Healthy Lifestyle in Salafi and Modern Islamic Boarding School…

Educational programs that are self-organized (independently), where these programs contain formal, non-formal, and informal education processes that last all day in one condition in the dormitory (Fachrurazi, 2016). So from this, it can be understood that Islamic boarding schools are institutionally developed to streamline their impact (Krisdiyanto et al., 2019); Islamic boarding schools are not only a place of learning but are a life process itself, character formation and resource development (Kariyanto, 2019). The characteristics of modern pesantren are prioritizing education in the formal school system and emphasizing modern Arabic and English (Tolib, 2015).

Santri are students who study or study at Islamic boarding schools. The number of students usually measures how far a pesantren has developed. Santri can be divided into two, namely students who live in boarding schools or dormitories that have been provided by students and students who do not live in boarding schools; these students are also called santri slow in Central Javanese terms, or some call it the term santri bat (Komariah, 2016). Santri has many of the same psychological characteristics as non-students, even in some ways better than non-students (Nashori, 2011).

The students’ economic background at the Selamat Islamic boarding school is diverse. Starting from a good, moderate, and weak economy (Stiawan & Tohirin, 2015). Related to the routine habits of the santri, it shows the tendency of the santri to be more capable and courageous in making and carrying out decisions independently, for example, financial management, spending planning, routine activity planning, and so on. This cannot be separated from the lives of those who do not live with their parents and the demands of the pesantren who want their students to live independently. Santri can share life with other Santri friends who are the majority of the same age (same age) and have the same inclinations. If the independence of behavior is related to the routines of the students, then it is likely that the students will have a high level of autonomy (Yunus, 2015).

From the description above, it is appropriate and necessary to pay serious attention to the health of the santri, especially the santri who live in Islamic boarding schools’ dormitories. Fitness can be achieved with the habit of adopting a healthy lifestyle. One of these lifestyles can be realized by consuming food or drinks included in the probiotic product.

The human digestive condition is essential in maintaining health and fitness, even into old age. Research on older people who can live more than 80 years of age showed that these pre-elderly are physically active, have a regular and not fast heart rate, laugh more, and rarely experience digestive disorders. Related to the last point, several other studies have also stated that pathogenic (disease-causing) bacteria more often cause digestive disorders. As we know, there are two types of bacteria in our body: good and evil. Good bacteria help the body metabolize food, while harmful bacteria are disease germs that often cause stomach upset or diarrhea.

The battle between good and bad bacteria in the human small intestine is a fact that we must accept. We can only maintain a healthy gut condition to keep it safe (Caglar et al., 2005). In this context, we must try to maintain the balance of bacteria in the gut. Along
with the development and advancement of technology, food has been developed that uses the role of microorganisms in the manufacturing process and is deliberately included in these foods. We know them as probiotic and prebiotic food or drinks (Gibson, 2005). Probiotics are live bacteria in food, which, when eaten with food, can maintain the balance of bacteria in the digestive tract (Grajek, 2005).

Based on the background above, this empowerment is carried out explicitly to empower students’ healthy lifestyles among Salafi and modern Islamic boarding schools through knowledge about probiotic food and drinks. The probiotic foods and drinks in question are yogurt, kefir, sauerkraut, winged bean yogurt, and kombucha tea. While the empowerment in question is how to make students at Islamic boarding schools able to understand basic knowledge, the benefits of consuming, as well as the process and stages of making Yogurt, Kefir, Sauerkraut, Kecipir Yogurt, Kombucha tea. After empowering the students in both Salafi and modern Islamic boarding schools, they can make them adopt a healthy lifestyle through probiotic food and drink accompanied by a holistic understanding of probiotics. Henceforth, these students can pass on this empowerment to other students through the application of peer tutors.

**Methods**

This empowerment is carried out for one month, from January 2023 to February 2023. The locations for this empowerment are Islamic boarding schools, both Salafi and modern, located in the Pemalang and Tegal Regencies.

Data collection techniques in this study will be carried out using questionnaires and test instruments in the form of questions related to the problem. The researcher’s next step after the empowerment is to collect data. Data processing was carried out quantitatively through statistical tests and qualitatively. For qualitative descriptive data processing, namely:

1. Data reduction, namely selecting collected and supported data by categorizing data that researchers need and do not need.
2. Presentation of data, namely researchers trying to compile relevant data so that it becomes information that can be concluded and has a specific meaning.
3. Data verification: the researcher draws conclusions based on the findings and triangulation between the observations.

For quantitative data processing, statistical tests were used: The test applied was hypothesis testing through the chi-square distribution and hypothesis testing using the Kologorov-Smirnov method.

The procedure for testing the hypothesis through the Khai-Square distribution. Fundamentally, the hypothesis testing procedure through the Khai-Square distribution is determined for research results in the form of discrete and categorical data that are grouped into at least two sample groups. This test method is a form of independent testing to determine whether or not there is a relationship between two variables. With this method, researchers can make decisions about the causes of a situation, in the sense of
whether the problem occurs due to significant factors (significant factors) or factors that are coincidence (chance factors).

In principle, the hypothesis testing criteria are determined by comparing the frequency obtained from observation (nij) with the expected frequency (eij). The null hypothesis is accepted if the two frequencies are the same or their difference is tiny. Meanwhile, if the two frequencies display a striking difference in value, the null hypothesis is rejected. In a more straightforward sense, the null hypothesis is accepted if the calculated khai-squared value is smaller than the khai-squared value in the table based on the significance level and a certain degree of freedom. As for the magnitude of the khai-squared value, it is known by applying the formula.

\[ X^2 = \sum_{i=1}^{k} \frac{(n_{ij} - e_{ij})^2}{e_{ij}} \]

\( X^2 \) is the khai-squared value of the calculation results, and nij is the frequency obtained from the observations in row I and column j (specific cells). At the same time, it is the expected frequency of row I and column j.

Previously, the value of the proportion of individuals who had "good" characteristics had to be determined, which was denoted as P. The importance of the balance of individuals who had "good" features was sought by applying the formula

\[ P = \frac{n_{11} + n_{12} + n_{13} \ldots n_{1k}}{n} \]

Where P is the value of the proportion of individuals who have "good" characteristics, n11 is the number of individuals who have "good" attributes from sample group 1, n12 is the number of individuals who have "good" characteristics from sample group 2, n13 is the number of individuals who have features "good" from sample group 3 onwards, and n is the total number of samples.

The hypothesis testing procedure uses the Kolmogorov-Smirnov method. Fundamentally, the hypothesis testing procedure using the Kolmogorov-Smirnov method for multiple sample groups is focused on testing the null hypothesis's validity, which states that the first and second sample groups come from identical populations. At the same time, the alternative theory states that the first and second sample groups come from people who are not similar or that one of them is higher or lower.

For multiple sample groups, the stages or procedures for testing the hypothesis that must be followed in the Kolmogorov-Smirnov method to determine the conclusion include:

a) Formulate null hypothesis and alternative hypothesis
b) Determine a certain level of significance
c) Formulate test criteria

In testing the two-sided hypothesis, the null hypothesis is accepted if

\[ D \leq D_a \]
While the null hypothesis is rejected if

\[ D > D_\alpha \]

d) Calculating the value of \( D \)

If the hypothesis testing procedure using the Kolmogorov-Smirnov method has reached this stage, the value of \( D \) must be calculated through several steps. The series of steps that must be taken to find the value of \( D \) are:

1. Record the results of observations in the table. The intended observation result is the value of each member in the sample group.
2. Compile the cumulative frequency distribution of words. If the number of members from each category in each sample group has been recorded and entered into the table, then the cumulative frequency distribution of observations is compiled. For each frequency, the relative percentage values of each category are included. The cumulative frequency distribution of words and their relative percentages are displayed with \( F_1 \) for the first sample group and \( F_2 \) for the second sample group.
3. Calculating the difference between the values of \( F_1 \) and \( F_2 \) and looking for the value of \( D \). The value of the most significant difference is used as the \( D \) value of the calculation results.

**Empowerment Design**

**Figure 1. Empowerment Design**

This community empowerment includes several steps or activity procedures carried out as follows:

1. Entrance
2. Diagnosis
3. Action Planning
4. Intervention (Action taking)
5. Evaluation (Assessment)
6. Reflection
Results and Discussion

Entrance

Understanding knowledge and habits in applying the healthy lifestyle of students who are or live in Islamic boarding schools is classified as very lacking, mainly related to learning about food and drink, which includes probiotics. These descriptions empower students who live in Islamic boarding schools regarding the healthy lifestyle of students among Salafi and modern Islamic boarding schools through knowledge about probiotic food and drink.

The students who live in Islamic boarding schools at least know the basic things about the following descriptions:

1. The human digestive tract, especially the large intestine, is inhabited by more than 500 species of bacteria in the trillions. Its existence cannot be avoided because the human habitat is not sterile. Reni bacteria around us can freely enter the body without us knowing it. However, if the composition of the good and bad bacteria populations is balanced, the body will not experience significant health problems. New problems will arise if there are too many harmful bacteria or disease-causing (pathogenic bacteria) in the intestine, which can cause diarrhea. This large population of harmful bacteria can be overcome by consuming probiotic foods, increasing the population of good bacteria in the intestine (Toma, 2006).

2. Probiotics are a type of food containing live bacteria that can survive through physical and chemical barriers in the digestive tract. The bacteria deposited in the food are then active and multiply, forming colonies that line the inside of the intestine (Toole & Cooney, 2007). The types of probiotic functional food that have been developed include milk and its fermented products (such as yogurt and ice cream – both liquid and powder). Most probiotics are bacteria similar to those found in our intestines. The two groups of bacteria most often used as probiotics are Lactobacillus and Bifidobacterium. Other bacteria that are also used as probiotics are Escherichia coli, Streptococcus salivarius, and Streptococcus thermophilus. Meanwhile, the probiotic from the mushroom group is Saccharomyces cerevisiae (Boulardii).

3. The use of microorganisms in food has been carried out for a long time for two reasons. First, for technological reasons. Microorganisms can change raw/basic materials into new products through fermentation, for example, milk into yogurt, cassava into tape, etc. Second, health reasons. Probiotic microorganisms have been proven to reduce losses caused by pathogenic bacteria. This evidence is further strengthened by the finding that the average long-lived Bulgarian people diligently eat yogurt. Probiotics are thought to be able to treat diarrhea (especially those caused by rotavirus), prevent and treat urinary tract infections, irritable bowel syndrome, reduce the likelihood of developing bladder cancer, and also prevent eczema (atopic dermatitis) in children. In addition, probiotics are also thought to help increase the body's immunity by stimulating specific cells in the intestine (Vrese & Marteau, 2007).
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**Diagnosis**

This service diagnosis is carried out through questionnaires or tests, which are then carried out to test the following hypotheses:

1. **Hypothesis Testing Through the Khai-Square Distribution**

   Based on the answers given by respondents regarding basic knowledge, the benefits of consuming, as well as the process and stages of making Yogurt, Kefir, Sauerkraut, Winged Bean Yogurt, and Kombucha tea, the results are in the following categories:

   **Table 1.** Grouping of Respondents Who Do Not Understand and Who Understand Regarding the Material

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Yogurt</th>
<th>Kefir</th>
<th>Sauerkraut</th>
<th>Kecipir</th>
<th>Kombucha Tea</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Respondents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Who Don't Understand</td>
<td>5</td>
<td>6</td>
<td>10</td>
<td>3</td>
<td>8</td>
<td>32</td>
</tr>
<tr>
<td>Number of Respondents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Who Understand</td>
<td>12</td>
<td>4</td>
<td>3</td>
<td>15</td>
<td>3</td>
<td>37</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>10</td>
<td>13</td>
<td>18</td>
<td>11</td>
<td>69</td>
</tr>
</tbody>
</table>

   In this study, the proportion of respondents who understand or do not understand PD denotes each observational material. In essence, the null hypothesis states that the proportion of respondents who do not understand probiotic material is constant, and therefore, the cause is sheer coincidence. The alternative theory says that the proportion of respondents who do not understand probiotic material is inconsistent; therefore, the reason is a significant factor. Thus, the null hypothesis and the alternative hypothesis are symbolically formulated as follows:

   $H_0 : P_{D1} = P_{D2} = P_{D3} = P_{D4} = P_{D5}$

   $H_1 : P_{D1} \neq P_{D2} \neq P_{D3} \neq P_{D4} \neq P_{D5}$

   This study uses a significance level of 5% or 0.05. Based on the description of the research, the amount of material observed or the number of proportions that exist is 5. So, the degrees of freedom are 4 ($5 - 1$), for a significance level of 0.05 and degrees of freedom 7, the khai-squared value in the table is 9,4877. Thus, the testing criteria applied in this study is that the null hypothesis is accepted if

   $X^2 \leq 9,4877$

   While the null hypothesis is declared rejected if

   $X^2 > 9,4877$

   The khai-squared value is calculated by determining the proportion of respondents who do not understand probiotic material to the total sample size. The value of the proportion is

   $\frac{5 + 6 + 10 + 3 + 8}{69} = 0.464$
Next, the expected frequency value is calculated. The calculation of the expected frequency value is applied to the number of respondents who do not understand and understand. Following the context of this study, the expected frequency value is calculated as follows:

\[
e_{11} = 0.464 \times 17 = 7.884, \quad e_{21} = 17 - 7.884 = 9.116
\]
\[
e_{12} = 0.464 \times 10 = 4.638, \quad e_{22} = 10 - 4.638 = 5.362
\]
\[
e_{13} = 0.464 \times 13 = 6.029, \quad e_{23} = 13 - 6.029 = 6.971
\]
\[
e_{14} = 0.464 \times 18 = 8.348, \quad e_{24} = 18 - 8.348 = 9.652
\]
\[
e_{15} = 0.464 \times 11 = 5.101, \quad e_{25} = 11 - 5.101 = 5.899
\]

Furthermore, the calculated value is placed to the right of the number of respondents who do not understand or understand.

**Table 2. Expected Frequency Value and Actual Frequency**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Yogurt</th>
<th>Kefir</th>
<th>Sauerkraut</th>
<th>Kecipir</th>
<th>Kombucha Tea</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Respondents Who Don’t Understand</td>
<td>5(7,884)</td>
<td>6(4,638)</td>
<td>10(6,029)</td>
<td>3(8,348)</td>
<td>8(5,101)</td>
<td>32</td>
</tr>
<tr>
<td>Number of Respondents Who Understand</td>
<td>12(9,116)</td>
<td>4(5,362)</td>
<td>3(6,971)</td>
<td>15(9,652)</td>
<td>3(5,899)</td>
<td>37</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17</td>
<td>10</td>
<td>13</td>
<td>18</td>
<td>11</td>
<td>69</td>
</tr>
</tbody>
</table>

The khai-squared value of the calculation results in this study is searched through the following calculations:

\[
\chi^2 = \sum \frac{(O - E)^2}{E} = \frac{(5 - 7.884)^2}{7.884} + \frac{(6 - 4.638)^2}{4.638} + \frac{(10 - 6.029)^2}{6.029} + \frac{(3 - 8.348)^2}{8.348} + \frac{(8 - 5.101)^2}{5.101} +
\]
\[
+ \frac{(12 - 9.116)^2}{9.116} + \frac{(4 - 5.362)^2}{5.362} + \frac{(3 - 6.971)^2}{6.971} + \frac{(15 - 9.652)^2}{9.652} + \frac{(3 - 5.899)^2}{5.899} = 17,052
\]

As is known from the calculation above, the calculated khai-squared value is 17.052. Meanwhile, the khai-squared value in the table for a significance level of 5% and 4 degrees of freedom is 9.4877. Because the calculated khai-squared value is 17.052, more significant than the khai-squared value in Table 9.4877., the null hypothesis is rejected, and the alternative view is accepted. So, indeed, the proportion of respondents who do not understand probiotic material is not constant, and therefore, the cause is a significant factor. Consequently, specific, well-planned actions must improve students’ knowledge of food or drinks that include probiotics in Islamic boarding schools.

2 Hypothesis Testing of the Kolmogorov-Smirnov Method for Multiple Sample Groups

Based on the answers given by respondents regarding basic knowledge, the benefits of consuming, and the process and stages of making Yogurt, Kefir, Sauerkraut, Winged Bean Yogurt, and Kombucha tea, the results are in the following categories:

**Table 3. Respondent Observation Data**
The data in the table shows that the value category of Salafi Islamic boarding school students is the same as that of Modern Islamic boarding school students. Thus, the null hypothesis states that the answers of the respondents of Salafi Islamic boarding school students are the same as those of modern Islamic boarding school students regarding basic knowledge, the benefits of consuming, and the processes and stages of making probiotic food and drinks. Meanwhile, the alternative hypothesis states that the respondents’ answers of Salafi Islamic boarding school students are different from those of modern Islamic boarding school students regarding basic knowledge, the benefits of consuming, and the processes and stages of making probiotic food and drinks. So, if formulated symbolically, the two hypotheses are

\[ H_0: \mu_{\text{Answers of Salafi Islamic boarding school students}} = \mu_{\text{Answers of Modern Islamic boarding school students}} \]

\[ H_1: \mu_{\text{Answers of Salafi Islamic boarding school students}} \neq \mu_{\text{Answers of Modern Islamic boarding school students}} \]

In this study, the significance level used was 5%. Based on the significance level, a value of D in the table must be calculated. Because the applicable significance level is 5%, the value of D in the table is equal to

\[ D = 1.36 \times \sqrt{\frac{37 + 32}{37 \times 32}} = 1.36 \times 0.2414 = 0.3283 \]

The D value of 0.3283 is the basis for formulating this study’s test criteria and conclusions. Thus, the requirements for testing the hypothesis applied to this study are that the null hypothesis is accepted if

\[ D \leq 0.3283 \]

While the null hypothesis is rejected if

\[ D > 0.3283 \]

Furthermore, the value of D must be calculated through several steps. The following work table shows the actions taken to determine the value of D.

<table>
<thead>
<tr>
<th>Santri Test Scores</th>
<th>Types of Islamic Boarding Schools</th>
<th>Category</th>
<th>Salafi</th>
<th>Cumulative Frequency</th>
<th>Percentage</th>
<th>Modern</th>
<th>Cumulative Frequency</th>
<th>Percentage</th>
<th>Difference (F1-F2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td></td>
<td>12</td>
<td>12</td>
<td>0.324324324</td>
<td>12</td>
<td>12</td>
<td>0.375</td>
<td>-0.05068</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td></td>
<td>8</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currently</td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Low</td>
<td></td>
<td>15</td>
<td>1</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Very Low</td>
<td></td>
<td>1</td>
<td>13</td>
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<td></td>
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<tr>
<td>Total</td>
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<td>37</td>
<td>32</td>
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</table>
Empowerment of Santri’s Healthy Lifestyle in Salafi and Modern Islamic Boarding School…

<p>| | | | | | |</p>
<table>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>High</td>
<td>0.540540541</td>
<td>5</td>
<td>17</td>
<td>0.53125</td>
</tr>
<tr>
<td>Current</td>
<td>1</td>
<td>21</td>
<td>0.567567568</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>Low</td>
<td>15</td>
<td>36</td>
<td>0.972972973</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>Very Low</td>
<td>1</td>
<td>37</td>
<td>1</td>
<td>13</td>
<td>32</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>37</strong></td>
<td></td>
<td><strong>32</strong></td>
<td></td>
</tr>
</tbody>
</table>

From the calculation steps carried out with the help of the table above, the most significant percentage value difference between the answers of santri respondents for Salafi and Modern Islamic boarding schools is 0.379223. Based on the comparison between the D values in the table and the calculated D values. This value is greater than the D value in the table of 0.3283. Thus, the null hypothesis is rejected, and the alternative view is accepted. In this condition, there is a difference in understanding of probiotic material between students studying at Salafi Islamic boarding schools and those looking at modern Islamic boarding schools.

**Action Planning**

Preparation of plans includes:

1. Knowledge of Yogurt, Kefir, Sauerkraut, Winged Bean Yogurt, Kombucha tea in 3 meeting sessions.
2. The benefits of consuming Yogurt, Kefir, Sauerkraut, Winged Bean Yogurt, and Kombucha tea in 2 sessions.
3. The process and stages of making Yogurt, Kefir, Sauerkraut, Kecipir Yogurt, and Kombucha tea, as many as five meeting sessions for manufacturing practice.

**Intervention (Action Taking)**

**Yogurt**

a. **Penasihatun Dasar**

Kefir

Kefir adalah minuman dari daur Kasus, yang terbuat dari susu dan telah melalui proses fermentasi. Adapun cara membuatnya adalah dengan menambahkan bungk kefir ke dalam susu sapi, kemudian, setelah dibiarkan, produknya akan menghasilkan minuman bernama "Kefir" yang merupakan minuman fermentasi yang sangat baik untuk kesehatan. Kefir mengandung berbagai jenis bakteri yang dibutuhkan tubuh untuk proses pencernaan, seperti bakteri laktobacillus dan streptococcus, yang akan membantu pencernaan dan kesehatan pencernaan.

Dalam memberikan manfaat, Kefir juga memiliki kandungan nutrisi yang tinggi seperti vitamin B, vitamin D, dan kalsium. Kefir juga digunakan dalam berbagai masakan, seperti es krim, yoghurt, dan minuman lainnya. Kefir juga digunakan dalam industri kecantikan, seperti untuk mengatasi kulit yang berjerawat dan kulit kusam. Kefir juga digunakan dalam industri kesehatan, seperti untuk mengatasi masalah pencernaan dan kesehatan perut.

Empowerment of Santri’s Healthy Lifestyle in Salafi and Modern Islamic Boarding School...

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>b. Manfaat</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kefir memiliki beberapa manfaat penting bagi kesehatan, di antaranya:</td>
</tr>
<tr>
<td>a)</td>
<td>Mencegah sensitivitas alergi dan alergi pada susu (laktosa);</td>
</tr>
<tr>
<td>b)</td>
<td>Mencegah pertumbuhan kanker, tumor, hepatitis, herpes, kolesterol, dan flu;</td>
</tr>
<tr>
<td>c)</td>
<td>Mencegah pertumbuhan organisme penganggu tubuh;</td>
</tr>
<tr>
<td>d)</td>
<td>Mengatasi ketidakseimbangan pada pria, dan</td>
</tr>
<tr>
<td>e)</td>
<td>Membantu menurunkan kolesterol (kandidiasis).</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>c. Proses dan Tahapan dalam Memproduksi Kefir</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Berikut tahap-tahap dalam pembuatan kefir:</td>
</tr>
<tr>
<td>a)</td>
<td>Susu segar dengan total kadar 11-12% disingapkan, yaitu disaring pada suhu 85-90°C selama 30 menit, kemudian didinginkan sampai mencapai suhu kamar.</td>
</tr>
<tr>
<td>b)</td>
<td>Masukkan 3% bumbu kefir ke dalam susu pendinginan, kemudian didinginkan berulang-kali.</td>
</tr>
<tr>
<td>c)</td>
<td>Susu didinginkan kembali selama 20-24 jam (senam) pada suhu kamar, agar proses fermentasi dapat berlangsung optimal.</td>
</tr>
<tr>
<td>d)</td>
<td>Dikukuhkan susu dalam mangkuk, sayang dengan menggunakan sarung peralatan untuk mencegah banting dahi kefir kembali.</td>
</tr>
<tr>
<td>e)</td>
<td>Kefir yang sudah disaring siap untuk diminum dalam atau tusuk tambahan penambah sesuai kebutuhan.</td>
</tr>
<tr>
<td>f)</td>
<td>Bumbu kefir yang diperoleh (usa hasil sarungan) kemudian dicuci dengan air matang dingin untuk disimpan lagi pada suhu kamar.</td>
</tr>
</tbody>
</table>

Sauerkraut

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a. Definisi</strong></td>
<td>Sauerkraut (kol. slang) adalah makanan jenuh yang dibuat dari bawang yang dinis halus, dan difermentasi oleh bakteri bakteri asam laktat, sperti Lactobacillus, Lactobacillus, dan Pediococcus. Sauerkraut dapat bertahan lama dan memiliki rasa yang cukup asam. Rasa asam ini dibentuk oleh bakteri asam laktat yang tumbuh saat sulu dalam sayuran fermentasi.</td>
</tr>
</tbody>
</table>

**b. Manfaat**

Pada tahun 1776, Captain James Cook diberi penghargaan Medali Copley setelah membuktikan bahwa sauerkraut berbakti sebagai makanan pencegah skorbut di kalangan pelaut Inggris ketika melakukan pelarutan jauh.
Yogurt Kecipir

a. Definisi

b. Manfaat
Kombucha Tea

a. Definisi

Kombucha adalah janur teh yang berasal dari Asia Timur dan terdapat ke keman melalui Rusia sejak penspanduan abad ke-20. Sementara, kombucha tea (the kombucha) merupakan minuman tradisional hasil fermentasi lanun teh dan gula dengan menggunakan starter mikroba kombucha (acetobacter subtilis dan beberapa jenis kuman) dan difermentasi selama 8-12 hari. Minuman yang dibuat dengan cara membuat kombucha ini adalah suatu rasa manis manis yang menyegarkan dan simbiosis kuman dari bakteri dan ragi kombucha. Minuman ini kini seringkali banyak digunakan sebagai harba pengencer di berbagai negara di Asia.

b. Manfaat


Evaluation (Assessment)

Evaluation of this empowerment is carried out after the intervention stage (Action Taking) is carried out through questionnaires or tests, which are then carried out for some hypothesis testing as follows:

1. Hypothesis Testing Through the Khai-Square Distribution

Based on the answers given by respondents regarding basic knowledge, the benefits of consuming, and the process and stages of making Yogurt, Kefir, Sauer Kraut, Kecipir Yogurt, and Kombucha tea after a series of planned intervention actions, the results were obtained in the following categories:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Yogurt</th>
<th>Kefir</th>
<th>Sauer Kraut</th>
<th>Kecipir</th>
<th>Kombucha Tea</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Respondents Who Do Not Understand</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>16</td>
</tr>
</tbody>
</table>

Prosperity: Journal of Society and Empowerment — Vol 3, No 2 (2023)
In this study, the proportion of respondents who understand or do not understand PD denotes each observational material. In essence, the null hypothesis states that the proportion of respondents who do not understand probiotic material after intervention or planned action is constant, and therefore, the cause is purely coincidental. The alternative hypothesis states that the proportion of respondents who do not understand probiotic material after intervention or planned action is not constant, and therefore, the cause is a significant factor. Thus, the null hypothesis and the alternative hypothesis are symbolically formulated as follows:

$$H_0 : \ P_{D1} = P_{D2} = P_{D3} = P_{D4} = P_{D5}$$

$$H_1 : \ P_{D1} \neq P_{D2} \neq P_{D3} \neq P_{D4} \neq P_{D5}$$

This study uses a significance level of 5% or 0.05. Based on the description of the research, the amount of material observed or the number of proportions that exist is 5. So, the degrees of freedom are 4 (5 – 1), for a significance level of 0.05 and degrees of freedom 7, the khai-squared value in the table is 9,4877. Thus, the testing criteria applied in this study is that the null hypothesis is accepted if

$$X^2 \leq 9,4877$$

While the null hypothesis is declared rejected if

$$X^2 > 9,4877$$

The khai-squared value is calculated by determining the proportion of respondents who do not understand probiotic material to the total sample size. The value of the proportion is

$$\frac{2 + 2 + 6 + 3 + 3}{65} = 0.246$$

Next, the expected frequency value is calculated. The calculation of the expected frequency value is applied to the number of respondents who do not understand and understand. Following the context of this study, the expected frequency value is calculated as follows

<table>
<thead>
<tr>
<th></th>
<th>e11</th>
<th>e12</th>
<th>e13</th>
<th>e14</th>
<th>e15</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.246 x 14</td>
<td>0.246 x 7</td>
<td>0.246 x 16</td>
<td>0.246 x 13</td>
<td>0.246 x 15</td>
</tr>
<tr>
<td>2</td>
<td>3,446</td>
<td>1,723</td>
<td>3,938</td>
<td>3,2</td>
<td>3,692</td>
</tr>
<tr>
<td>3</td>
<td>14-3,446</td>
<td>7-1,723</td>
<td>16-3,938</td>
<td>13-3,2</td>
<td>15-3,692</td>
</tr>
<tr>
<td>4</td>
<td>10,554</td>
<td>5,277</td>
<td>12,062</td>
<td>9,8</td>
<td>11,308</td>
</tr>
</tbody>
</table>

Furthermore, the calculated value is placed to the right of the number of respondents who do not understand or understand.
The khai-squared value of the calculation results in this study is searched through the following calculations

$$\frac{(2 - 3,446)^2}{3,446} + \frac{(2 - 1,723)^2}{1,723} + \frac{(6 - 3,938)^2}{3,938} + \frac{(3 - 3,2)^2}{3,2} + \frac{(3 - 3,692)^2}{3,692} + \frac{(12 - 10,554)^2}{10,554} + \frac{(5 - 5,277)^2}{5,277} + \frac{(10 - 12,062)^2}{12,062} + \frac{(10 - 9,8)^2}{9,8} + \frac{(12 - 11,308)^2}{11,308}$$

= 2.4843

As is known from the calculation above, the calculated khai-squared value is 2.4843. Meanwhile, the khai-squared value in the table for a significance level of 5% and 4 degrees of freedom is 9.4877. The null hypothesis is accepted because the calculated khai-squared value of 2.4843 is smaller than the khai-squared value in the table. Indeed, the proportion of respondents who do not understand probiotic material after the planned intervention is not constant, and therefore, the cause is a significant factor. Consequently, there have been substantial changes following the actions taken regarding the knowledge of students at Islamic boarding schools regarding food or drinks, including probiotics.

2. Hypothesis Testing of the Kolmogorov-Smirnov Method for Multiple Sample Groups

Based on the answers given by respondents regarding basic knowledge, the benefits of consuming, and the process and stages of making Yogurt, Kefir, Sauerkraut, Kecipir Yogurt, and Kombucha tea after a planned intervention, results were obtained in the following categories:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Yogurt</th>
<th>Kefir</th>
<th>Sauerkraut</th>
<th>Yogurt</th>
<th>Kecipir</th>
<th>Kombucha</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Respondents Who Don't Understand</td>
<td>2 (3,446)</td>
<td>(1,723)</td>
<td>6 (3,938)</td>
<td>3 (3,2)</td>
<td>3 (3,692)</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Number of Respondents Who Understand</td>
<td>12 (10,554)</td>
<td>(5,277)</td>
<td>10 (12,062)</td>
<td>10 (9,8)</td>
<td>(11,308)</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>7</td>
<td>16</td>
<td>13</td>
<td>15</td>
<td>65</td>
<td></td>
</tr>
</tbody>
</table>

The khai-squared value of the calculation results in this study is searched through the following calculations

$$\frac{(2 - 3,446)^2}{3,446} + \frac{(2 - 1,723)^2}{1,723} + \frac{(6 - 3,938)^2}{3,938} + \frac{(3 - 3,2)^2}{3,2} + \frac{(3 - 3,692)^2}{3,692} + \frac{(12 - 10,554)^2}{10,554} + \frac{(5 - 5,277)^2}{5,277} + \frac{(10 - 12,062)^2}{12,062} + \frac{(10 - 9,8)^2}{9,8} + \frac{(12 - 11,308)^2}{11,308}$$

= 2.4843

As is known from the calculation above, the calculated khai-squared value is 2.4843. Meanwhile, the khai-squared value in the table for a significance level of 5% and 4 degrees of freedom is 9.4877. The null hypothesis is accepted because the calculated khai-squared value of 2.4843 is smaller than the khai-squared value in the table. Indeed, the proportion of respondents who do not understand probiotic material after the planned intervention is not constant, and therefore, the cause is a significant factor. Consequently, there have been substantial changes following the actions taken regarding the knowledge of students at Islamic boarding schools regarding food or drinks, including probiotics.

2. Hypothesis Testing of the Kolmogorov-Smirnov Method for Multiple Sample Groups

Based on the answers given by respondents regarding basic knowledge, the benefits of consuming, and the process and stages of making Yogurt, Kefir, Sauerkraut, Kecipir Yogurt, and Kombucha tea after a planned intervention, results were obtained in the following categories:

<table>
<thead>
<tr>
<th>Table 7. Respondent Observation Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santri Test Score</td>
</tr>
<tr>
<td>Category</td>
</tr>
<tr>
<td>Very High</td>
</tr>
<tr>
<td>High</td>
</tr>
<tr>
<td>Currently</td>
</tr>
<tr>
<td>Low</td>
</tr>
<tr>
<td>Very Low</td>
</tr>
</tbody>
</table>
The data in the table shows that the value category of Salafi Islamic boarding school students is the same as that of Modern Islamic boarding school students. Thus, the null hypothesis states that the answers of the Salafi Islamic boarding school students are the same as those of the modern Islamic boarding school students in terms of planned intervention. Meanwhile, the alternative hypothesis states that the answers of the Salafi pesantren students are different from those of the modern pesantren students after the planned intervention. So, if formulated symbolically, the two hypotheses are

\[ H_0: \mu_{\text{Answers of Salafi Islamic boarding school students}} = \mu_{\text{Answers of Modern Islamic boarding school students}} \]

\[ H_1: \mu_{\text{Answers of Salafi Islamic boarding school students}} \neq \mu_{\text{Answers of Modern Islamic boarding school students}} \]

In this study, the significance level used was 5%. Based on the significance level, a value of D in the table must be calculated. Because the applicable significance level is 5%, the value of D in the table is equal to

\[ 1,36 \times \sqrt{\frac{37 + 32}{37 \times 32}} = 1,36 \times 0,2414 = 0,3283 \]

The D value of 0.3283 is the basis for formulating this study’s test criteria and conclusions. Thus, the requirements for testing the hypothesis applied to this study are that the null hypothesis is accepted if

\[ D \leq 0,3283 \]

While the null hypothesis is rejected if

\[ D > 0,3283 \]

Furthermore, the value of D must be calculated through several steps. The following work table shows the actions taken to determine the value of D.

### Table 8. Double Sample Kolmogorov-Smirnov Method Working Table

<table>
<thead>
<tr>
<th>Santri Test Score Category</th>
<th>Types of Islamic Boarding Schools</th>
<th>F1 - F2</th>
<th>Salafi Cumulative Frequency</th>
<th>Modern Cumulative Frequency</th>
<th>Percentage</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very</td>
<td></td>
<td></td>
<td>10</td>
<td>14</td>
<td>0.2857</td>
<td>0.4666</td>
</tr>
<tr>
<td>High</td>
<td></td>
<td></td>
<td>15</td>
<td>10</td>
<td>0.7143</td>
<td>-0.0857</td>
</tr>
<tr>
<td>Currently</td>
<td></td>
<td></td>
<td>1</td>
<td>14</td>
<td>0.7428</td>
<td>-0.0571</td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td></td>
<td>4</td>
<td>24</td>
<td>0.8571</td>
<td>-0.0761</td>
</tr>
<tr>
<td>Very Low</td>
<td></td>
<td></td>
<td>5</td>
<td>30</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>35</td>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The largest among the answers of the santri respondents for the Salafi and Modern Islamic boarding schools after the planned intervention was -0.05714. Based on the comparison between the D values in the table and the calculated D values. This value is smaller than the D value in the table of 0.3283. Thus, the null hypothesis is accepted, and the alternative
hypothesis is rejected. In this condition, after the planned intervention, there was no difference in understanding of probiotic material between students studying at Salafi Islamic boarding schools and students looking at Modern Islamic boarding schools.

Conclusion

The conclusions obtained from the empowerment of students in Salafi and modern Islamic boarding schools can make them adopt a healthy lifestyle through probiotic food and drink accompanied by a holistic understanding of probiotics. The consumption pattern of a healthy life must be carried out by students through probiotic food or drink products in Islamic boarding schools; there are at least four primary functions of probiotic food. First, maintain the balance of intestinal bacteria. Second, it lowers blood cholesterol levels. Third, prevent the formation of cancer cells. Fourth, it helps the digestive process of lactose (sugar in milk). Henceforth, these students can pass on this empowerment to other students through the application of peer tutors.

References


