Relation Active Cadre And Community Participation With Protein Energy Malnutrition Case

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ABSTRACT
Integrated Service Post (Posyandu) is a place to monitor under five’s growth to combat protein energy malnutrition (PEM). Main actor in posyandu is cadre, who has to be active. Active cadre pursue mothers to weigh their under fives which can increase participation. Participation enhancement can increase mother’s knowledge and parenting practice which influence lowering PEM cases. This research aims to know relation between active cadre and community participation with PEM cases. This is an observational research use cross sectional design, which is held in Srandakan Public Health Center (PHC) working area. Independent variable is active cadre, moderating variable is community participation and dependent variable is PEM cases. Product moment Pearson and Rank Spearman correlation test were performed to prove hypothesis. Result show there are 402 active cadres with range 11, community participation is 87.06% and 50 PEM cases are found. There are significant correlations between active cadres and community participation, community participation and PEM cases, but there is no significant correlation between active cadres and PEM cases. It is better for Srandakan PHC to increase supervision and development of community participation and refreshing cadre in order to develop PEM prevention program. Key words: active cadre, participation, PEM.

BACKGROUND
Indonesia faces nutritional problems; 33 provinces face acute nutritional problems and 18 provinces face acute and chronic nutritional problems (Kemenkes, 2008). Case of Protein Energy Malnutrition (PEM) in infants is increase from 17.9% in 2010 to 19.6% in 2013. While PEM is increase, case of malnutrition is also increase from 4.9% in 2010 to 5.7% in 2013 (Kemenkes, 2013).
Based on UNICEF, PEM is caused by direct and indirect factors. Direct factors are; nutrition intake and infection. Indirect factors are; food accessibility and food frequency, parenting, sanitation, environment and health services. Integrated Service Center (posyandu) is a form community based health effort (UKBM) which is held by, from and for society.
Posyandu is not maximally used by society due to several factors, one of them is cadre. Cadre is main actor in Posyandu as implementor and communicator. Active cadre more than 5 people can make posyandu activity goes well, so they can pursue society to participate to weigh under five in posyandu. In Daerah Istimewa Yogyakarta, participation rate to weight under five (D/S) in posyandu is around 72-79%. This D/S doesn’t reach province target 80%, with D/S 77.75%. Community participation is an essential factor which can decrease morbidity and influence nutritional status of under five. Mothers who utilize and actively participate in posyandu significantly influence good nutrition status on under five.
Srandakan district is located in Bantul Regency with 1 Public Health Center (PHC). There are 44 posyandu which spread in 2 villages Trimurti and Poncosari. Community participation to weigh under five in 2015 is
83.08%, which has reach target 81%. Even D/S has reach target, there is range 33.5% which is mean various community participation. Besides, PEM case in Srandakan PHC is 9.73% which still higher than target of Bantul Regency 7%.

Based on background above, it is important to do research about “Relation Active Cadre and Community Participation with Protein Energy Malnutrition” in Srandakan PHC.

**METHOD**

This is an observational research using cross-sectional research design. Data active cadre, community participation, and cases of protein energy malnutrition were collected in same term of time. This research using quantitative supported by qualitative approach, especially data about community participation. Data community participation were analyzed qualitatively and followed by qualitative approach using interview and focus group discussion (FGD).

This research was held in 44 posyandu in Srandakan PHC working area, Bantul Regency, Yogyakarta. This research was conducted on September until December 2016. Unit analysis is posyandu, subjects are cadre and mothers. Independent variable is active cadres, moderating variable is community participation and dependent variable is protein energy malnutrition cases. In order to prove hypothesis, Product Moment Pearson correlation test was done in data which normally distributed and Rank Spearman was done in data which not normally distributed.

**RESULT**

Posyandu in Srandakan PHC were in Trimurti and Poncosari Village which spread in 44 hamlets. There are 24 (54.6%) posyandu in Poncosari village and 20 posyandu (45.4%), number of posyandu as much as number of hamlet in Srandakan as Table 1.

**Table 1. Data Posyandu in Srandakan PHC Working Area**

<table>
<thead>
<tr>
<th>Village</th>
<th>Posyandu</th>
<th>Level Posyandu</th>
<th>Purnama</th>
<th>Mandiri</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Trimurti</td>
<td>20</td>
<td>7</td>
<td>15.91</td>
<td>13</td>
</tr>
<tr>
<td>Poncosari</td>
<td>24</td>
<td>10</td>
<td>22.73</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>17</td>
<td>38.64</td>
<td>27</td>
</tr>
</tbody>
</table>

Source: Data UKBM Bantul Regency, 2014

In Trimurti Village from 20 posyandu, there are 7 posyandu (15.91%) Purnama and 13 posyandu (29.55%) Mandiri. In Poncosari Village from 24 posyandu, there are 10 posyandu (22.7%) Purnama and 14 posyandu (31.82%) Mandiri. (Dinkes Kabupaten Bantul, 2014).

![Graphic Weight Result in Srandakan PHC 2016](source)

Source: Nutrition Report Srandakan PHC 2016

**Fig. 1. Graphic Weight Result in Srandakan PHC 2016**
Based on data weight result which was held monthly is shown in Image 1. It shows scope of program (K/S) does not change (increase or decrease) and stil in 100%. This 100% K/S is reach target in National (100%), province target (100%), and Bantul Regency target (100%).

Community participation to weigh under five in posyandu (D/S) at Srandakan PHC in 2016 is 87.06%. Scope D/S has reach target in National (80%), province target (85%), and Bantul Regency target (81%). Sustainability program (D/K) in Srandakan PHC working area is 87.06%. This D/K has reach target in National (70%), province target (70%), and Bantul Regency target (75%).

Weight result in posyandu (N/D) at Srandakah PHC is 60.36%. This N/D does not reach National target (70%), province target (75%) and Bantul Regency target (70%). Achievement of program (N/S) in posyandu at Srandakan PHC is 55.24%. This N/S has reach National target (40%), province target (50%) and Bantul Regency target (50%).

Table 2. Active Cadre

<table>
<thead>
<tr>
<th>Item</th>
<th>Trimurti</th>
<th>Poncosari</th>
<th>Srandakan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>198</td>
<td>204</td>
<td>402</td>
</tr>
<tr>
<td>Mean</td>
<td>9.9</td>
<td>8.5</td>
<td>9.14</td>
</tr>
<tr>
<td>Range</td>
<td>11</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Minimum</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Maximum</td>
<td>16</td>
<td>13</td>
<td>16</td>
</tr>
</tbody>
</table>

Source: Nutrition Report Srandakan PHC 2016

Based on Table 2 above, it is shown there are 402 active cadres in 44 posyandu. There are 198 active cadres in Trimurti Village who work in 20 posyandu. It is around 10 active cadres work in each posyandu. There are 204 active cadres in Poncosari Village and 8 active cadres in each posyandu. In Srandakan PHC working area approximately 9 active cadres work in each posyandu.

In Trimurti Village at least 5 cadres work in Srandakan hamlets and Lopati hamlets has highest number of active cadre with 16 active cadres. In Poncosari Village, Godegan and Wonotingal hamlets has the highest number of active cadres with 13 active cadres. Besides, Kukap hamlet has the lowest number of active cadres with 5 cadres.

A posyandu need at least 5 active cadres each activity due to “5 table system” which is used in posyandu activity. Active cadre is essential in implementation of monitoring under five’s weight and growth (Widagdo, 2009). Cadre has main role as educator based on weighing result which is very important because it can increase mother’s knowledge (Sistriani, 2013).

Table 3. Community Participation

<table>
<thead>
<tr>
<th>Item</th>
<th>Trimurti</th>
<th>Poncosari</th>
<th>Srandakan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>85.38</td>
<td>88.46</td>
<td>87.06</td>
</tr>
<tr>
<td>Range</td>
<td>32.25</td>
<td>21.48</td>
<td>32.35</td>
</tr>
<tr>
<td>Minimum</td>
<td>67.34</td>
<td>77.97</td>
<td>67.34</td>
</tr>
<tr>
<td>Maximum</td>
<td>99.69</td>
<td>99.45</td>
<td>99.69</td>
</tr>
</tbody>
</table>

Source: Nutrition Report Srandakan PHC 2016

Table 3 serves about indicator of community participation to weigh their under five in posyandu (D/S). D/S in Srandakan PHC in 2016 is 87.06% with standard deviation 7.69. This D/S has reach Bantul Regency target (81%), province target (85%) and National target (80%). Poncosari Village has D/S 88.46%, it is higher than D/S in Trimurti Village with 85.38%. Posyandu with the highest community participation to weigh their under five is Lopati with 99.69%, while posyandu with the lowest community participation is Srandakan with 67.34%.
Table 4. Protein Energy Malnutrition Cases in Srandakan PHC 2016

<table>
<thead>
<tr>
<th>Item</th>
<th>Trimurti</th>
<th>Poncosari</th>
<th>Srandakan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases</td>
<td>48</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>Range</td>
<td>16</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>Minimum</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Maximum</td>
<td>16</td>
<td>2</td>
<td>16</td>
</tr>
</tbody>
</table>

Source: Nutrition Report Srandakan PHC 2016

Table 4 shows Protein Energy Malnutrition (PEM) cases in Srandakan PHC in 2016. There are 48 PEM cases in Trimurti Village, while in Poncosari Village is found 2 PEM cases. Posyandu with the highest PEM cases is Gunug Sari Lor with 16 cases. While in 36 posyandu (81.8%), there are not found PEM cases in 2016.

**DISCUSSION**

Relation Active Cadre and Community Participation

Srandakan PHC has 44 posyandu in its working area with 402 active cadres. Community participation to weigh their under five in posyandu (D/S) is 87.06%. The average of community participation in Poncosari Village is 88.46% and Trimurti Village is 85.36%. Product moment Pearson correlation test was done with p value = 0.001 and r = 0.474. Which is means there is significant correlation between active cadre and community participation to weigh their under five with medium level significances (Sugiyono, 2010).

Posyandu cadre is reinforcing factor of mother’s healthy behavior to weigh their under five in posyandu. Cadre’s role in posyandu to increase community participation can influence predisposing factor of mothers to weigh their under five in posyandu. Predisposing factor is factor which come from inside, as motivation of individual or community to do healthy behavior. This predisposing factors are: knowledge, attitude, believes, value, and tradition. Posyandu cadre can increase mother’s knowledge by giving them education and counseling based on weighing result. Cadre’s role is divided into two roles; inside posyandu activity and outside posyandu activity.

Cadre’s role inside posyandu as implementer to do their task to monitor under five’s growth and give education based on weighing result to increase mother’s knowledge. Knowledge can develop motivation which shows that mothers have awareness. Awareness to come and weigh their children in posyandu can develop interest. Interest to participate in posyandu will lead stage of trial to adopt this healthy behavior to weigh their under five in posyandu.

Cadre’s roles outside posyandu are giving motivation and persuade mothers to participate in posyandu. Motivation and persuasion are sustainable and it happens naturally, because cadre persuade mothers as component of community. If motivation and persuasion are working and sustainable, it will increase community participation to weigh their under five in posyandu. When mothers participate in posyandu, cadre will do their role inside posyandu by giving education based on weighing result to increase mother’s knowledge.

Active cadre can influence community participation to weigh their under five in posyandu directly and indirectly. According to Risqi (2013), there is significant positif relation between active cadres with mother’s participation to posyandu. Rahmadiliyanti and Meiliyanie (2012) tell that posyandu cadre is considered to bring 70% motivation for mothers in order to participate on posyandu weighing activity.

In order to get high community participation in society, active cadre is essential and needed both inside and outside posyandu. Posyandu with higher number of active cadre can increase community participation to weigh their under five. If this condition is sustainable, it will make monitoring under five’s growth program runs well, so prevention malnutrition program in society can run optimally.
Relation Community Participation and PEM Cases

Rank Spearman test which have been done shows p value $= 0.016$ with correlation coefficient -0.362. It shows significant correlation between community participation and PEM cases and it is weak negative correlation. Community participation to weigh their under five in posyandu is initial key on prevention malnutrition program, because community participation shows that mothers and family are concern about under five’s condition. This concern leads curiosity which can affect on knowledge enhancement. Knowledge enhancement can be reach due to transfer of knowledge which taken place in table 4 in posyandu activity. In table 4, mothers will be given nutrition education based on weighing result.

Factors cause malnutrition have been introduced by UNICEF and used in international. Direct factors malnutrition are; food intake and infection disease. Malnutrition is not only caused by food intake, but also infection disease. This infection disease has reciprocal relation or causality relation (Supariasa, 2012).

Two direct factors can be caused by indirect factors; availability and food accessibility, parenting and quality of health service (Waryana, 2016). Indirect factors cause malnutrition are related with; education, knowledge and family skill. Higher education, higher knowledge, and higher family skill potential to have better availability and food accessibility, better parenting, and can optimize function of health service.

Food security in family is also related with food availability, food price, family purchasing power, knowledge about nutrition and health (Bappenas, 2015). Mothers who always bring their under five in posyandu to be monitored their weight will receive counseling/nutrition education which can increase their knowledge, attitude and practice. This enhancement can increase their parenting practices on giving better nutrition intake which can prevent their under five suffer from malnutrition. If all under fives are carried to posyandu and their weight is monitored, their risk to suffer from PEM can be decreased. This is suitable with Octaviani (2008) who did research with conclusion there is significant relation between active family to weigh their under five with nutrition status. Inactive family to weigh their under fives risk 6.875 higher to have under five with PEM status compared with active family. Asdhany and Kartini (2012) wrote that family participation to weigh under five affect under five’s nutrition status based on weight for age. It is also caused by energy and protein intake.

Posyandu utilization as weight and growth monitoring place to prevent PEM on under five is helpful for mothers to increase their knowledge and practice about balance nutrition. Hidayat and Jahari (2012) wrote that family which utilize posyandu and health service have tendency to have under five who has good nutrition status. It is similar with Yogiswara and Margawati (2011) who wrote that mothers participation in posyandu significantly related with under fives nutrition status.

Relation Active Cadre with PEM Cases

Rank Spearman test which have been done shows p value $= 0.903$ with correlation coefficient -0.19. It shows no significant correlation between community active cadre and PEM cases. Posyandu cadre as reinforcing factor on healthy behavior have task to implement 5 table systems in posyandu. Cadre’s tasks are; recording presence under five in table 1, weighing under five in table 2, record and report weighing result in table 3, counceling and nutrition education in table 4 and give health service with health practitioners in table 5.

Posyandu cadre is one of important components in community who has role in PEM prevention program. As implementer in PEM prevention program, posyandu cadre gives indirect impact. In the other hands, PEM is caused by direct factors which have higher contribution as risk factor. Those direct factors are influenced by under fives family which is mean that family has the main role to do PEM prevention program.
Family Motivation to Participate in PEM Prevention Program

Data qualitative were collected by interview and focus group discussion on posyandu cadre and under five’s mothers. It is known that most of mother participate in posyandu have motivation to know their under five’s weight and their health. It is related with interview result below:

“Nggeh niku supados ngertos perkembangan e anak, bobot e mundak nopo pripun, nek mundak kan anak e sehat. Nek bobot e mboten mundak nggeh konsultasi kalih petugas kesehatan niku” (Irm, Celan, 24 Desember 2016).

“I always go to posyandu to weigh my under five in order to know his weight, is it increase or not. If his weight is increasing, he is healthy. If his weight is not increase, I will consult to health practitioners or cadre. (Irm, Celan, 24 Desember 2016).

Another informant confirms that:

“First, to check my under five’s weight is increasing or not, second to get information about nutrition and health, if I don’t get clear, I can ask cadre about that information or another info related with my under five’s weight” (Cy, Polosio, 5 Desember 2016).

This result is appropriate with Asdhany and Kartini (2012) who wrote that under five’s mother who actively participate in posyandu has private motivation. This motivation shows that mother already has awareness, interest and tendency trying to adopt healthy behavior. Motivation and awareness are keys on community participation, because it is based on principle; community fell need, health service organization based on community participation, health service which is implemented by community (Notoatmodjo, 2007).

Beside private motivation, there is another factors influence under five’s mother to participate in posyandu, it is extrinsic motivation. Extrinsic motivation is motif influence main private motivation which comes from another person. Mother’s motivation to participate in posyandu is influenced by posyandu cadre and public figure (Maisya and Putro, 2011). That research is similar with result of interview on under five’s mother below:

“Nggeh.. nek mboten nimbangke mengke diopyak-opyak kalih kader e, mengke diumumke kalih pak kadus e ten mesjid babakan jadwal penimbangan” (I, Celan, 26 Desember 2016).

“If I don’t come to posyandu to weigh my under five, posyandu cadre will ask me to come, beside hamlet leader usually announce the schedule of posyandu” (I, Celan, 26 Desember 2016).

“…njuk mengke njuk nek enten penyuluhan saking kader nggeh dikandani oo..nek anak ra gelem maem supyo gelem maem niku pripun…ngeten niku pak..” (Ch, Polosio, 5 Desember 2016).

“… if there is nutrition education from cadre, we will be given information how to increase our under five’s nutrition intake..” (Ch, Polosio, 5 Desember 2016).

Information from informant above shows that cadre and public figure has role on community participation to prevent PEM. Posyandu cadre as motivator and try to persue mothers to participate in posyandu. Beside extrinsic factor, family’s role is the most essential role in community participation, like information below:

“Niku pak, bapak e niki sok nggathekke lan ngandani nek setiap bulan harus ditimbange ngoten..biasene nek angger tanggal posyandu ngelsingke kulo niki jadwal timbangan to...” (I, Celan, 26 Desember 2016).

“My husband concern about our under five who has to be weighed monthly. Usually, in date of posyandu, my husband remind me that I have to take our under five to posyandu” (I, Celan, 26 Desember 2016).
Community has the main role to prevent PEM, but the most important role which is needed is family role. Family as main actor in prevention PEM program, like Ife (2006) wrote that the core of community development is from bottom (family). Community knows what they need and have to know how to fulfill their needs independently.

Family’s role on PEM prevention program in Srandakan PHC working area is as object and subject in the same time. Family as object because family as taget which has to be supported to have power to prevent PEM independently. Family as subject because family can decide every actions in order to maintain under five’s good nutrition status. Health practitioner from Srandakan PHC as fasilitator give facility, supervise and monitor family and community on PEM prevention program.

Main role of family on PEM prevention program is based on UNICEF that PEM is caused by indirect factors. Indirect factors are; availability and food accessibility, parenting, sanitation, environment that all of them refers to family’s role. Family’s role will influence direct factors because under five is depending on family’s parenting.

Health practitioner’s role as facilitator is motivating, supervising and giving access to community in order to do PEM prevention. Facilities that given are health facility to cure under five with PEM or malnutrition condition and supplementary food. Facilities that will be given can support to decrease PEM cases. According to Wijaya (2010), main role of facilitator is developing their community to build community independency on solving problems that they face. Role of family, posyandu cadre, public figure and facilitator to prevent PEM in Srandakan PHC working area is on Image 2.

CONCLUSION

Active cadre average in Srandakan PHC working area is 9 cadres.
Community participation to weigh under five (D/S) is 87.06%.
PEM cases in Srandakan PHC are 50 cases.
There is significant relation between active cadre and community participation (D/S).
There is significant relation between community participation (D/S) and PEM cases.
There is no significant relation between active cadre and PEM cases.
Mother’s motivation to weigh their under five are to know their weight and health and motivaton from cadre. Form of participation are; idea, money, energy, place and food materials.
RECOMMENDATION
For Head of Srandakan PHC
Increase community empowerment to participate on posyandu, especially for public figure to give motivation for community to participate on posyandu. For Nutritionist of Srandakan PHC
Give motivation and training for cadre to increase cadre’s role on community participation enhancement, especially cadre’s role outside posyandu.

REFERENCES