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ASSOCIATION OF GOVERNMENT POLICY AND MOTHER’S PERCEPTION TO EXCLUSIVE BREASTFEEDING PRACTICE

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ABSTRACT

Background: Although the Indonesian government has campaigned exclusive breastfeeding during the past decade through maternal and child program of Ministry of Health, however, its coverage in Yogyakarta province remains low.

Objective: This study aims to analyze factors related to exclusive breastfeeding program, especially indicators that can explain government’s regulation and mothers’ perception to exclusive breastfeeding practice.

Methods: It was a cross-sectional study involved 185 mothers who have 6-12 months infants with parity 1-3. The correspondents live in Sleman district and had normal delivery in hospital, health center or midwifery private practitioner. The association between the exogenous (government policy and mothers’ perception) and the endogenous variables (mothers’ participation to exclusive breastfeeding practice) was determined using Lisrel version 8.80.

Results: Although the government policy contributed to the success of implementing breastfeeding program (33%), providing breastfeeding rooms (28%), and declaring the related government regulation (17%); however, its contribution was recorded at only 2% to human resources. Knowledge significantly encouraged mothers to breastfeed whilst infrastructure was assessed as a strong determinant of mothers’ willingness to participate in the program at the contribution of 50%.

Conclusion: Although there was only a weak association between government regulation to mothers’ perception and between mothers’ perception towards exclusive breastfeeding practice, the study highlights the importance of providing adequate information to improve mothers’ knowledge on exclusive breastfeeding. By knowledge improvement, mothers will have better perception, which in turn will improve their self-efficacy and practices in exclusive breastfeeding.

Keywords: Policy, perception, participation, exclusive breastfeeding.
INTRODUCTION

The importance of breastfeeding for both mother and child has been studied widely. Numerous studies have shown that breastfeeding may improve child’s quality of life in a short and long term. Not only reducing the risk of infant mortality, exclusive breastfeeding also lessen the probability of acute respiratory infection and diarrhea.\(^1,2\) Moreover, breast milk contains of lactose and essential fatty acid that stimulate baby’s brain to grow and develop optimally. In a long term, children and adults who were breastfed are more likely to have higher IQ and develop better immunity against food allergies, asthma, and diabetes.\(^3,4\)

Although the Indonesian government has campaigned exclusive breastfeeding during the past decade through maternal and child program of Ministry of Health, however, its coverage in Yogyakarta province remains low. Only 66.7 percent of mothers were reported exclusively breastfed their babies. Yogyakarta regency was noted as the lowest with only 51.6 percent of mothers practiced breastfeeding, followed by Gunung Kidul district, Bantul and Kulon Progo with 56.5, 62, and 70.4 percent, respectively. Sleman district showed the highest achievement by reporting 80.6 percent of mothers have breastfed their babies exclusively in 2014.\(^5\)

Studies found that mothers’ knowledge, related to the importance of exclusive breastfeeding, was found as a strong inhibitor of breastfeeding practice. When mothers’ participation in breastfeeding support group – as one of the indicators of mothers’ knowledge – was reported low, the likelihood of participation in breastfeeding will be at the lowest. In some cases, breastfeeding practice also related to mothers’ self-confidence. Mothers who believed they may produce sufficient amount of breastmilk are more likely to participate in exclusive breastfeeding.\(^6,7\)

Beside mother’s internal factors, successful breastfeeding is determined by the involvement of family and community member.\(^8\) Studies found, mothers who have their family supported and joined a support group for breastfeeding were more likely to practice exclusive breastfeeding compared to their counterparts who were not. Not only support group, community participation may also involve peers and counselors. Mothers who were visited by community-based counselor were more likely to initiate breastfeeding earlier.\(^9,10\)

Government’s roles of course are undoubtedly important. Series of government policy include providing training for breastfeeding facilitators and counselor, designing peer support groups in community level, Baby Friendly Hospital Initiative (BFHI), The First 1000 Days of Life movement and also issuance of government regulation on exclusive breastfeeding. Although much have been done in order to increase the exclusive breastfeeding coverage in Yogyakarta, the results are still unsatisfying. Since successful breastfeeding is determined by many factors, government’s regulations only do not have enough power to improve breastfeeding practice. Nevertheless, it cannot be denied that government policy helps to regulate the implementation, either in working place or community. This study aims to analyze factors related to exclusive breastfeeding program, especially indicators that can explain government’s regulation and mothers’ perception on exclusive breastfeeding practice.

METHODS

A quantitative study with a cross-sectional approach was employed in this present study. The assessment of independent and dependent variables was
conducted at the same period, and each sample in the population was observed only one time during the research. The association between the exogenous (government policy and mothers’ perception) and the endogenous variables (mothers’ participation to exclusive breastfeeding practice) was determined using Lisrel analysis version 8.80.

In total, 185 mothers were randomly chosen as subjects proportionally from 87 villages in 17 sub-districts (as cluster), at Sleman district of Daerah Istimewa Yogyakarta province. Respondents in the clusters met these inclusion criteria: mother aged 20 to 35 years with infant aged 6 to 12 months, the baby was born normally or through sectio caesarea, had delivery at health care service (not home birth), having not more than 3 children, complete secondary school, and residing in the cluster site, able for communication and willing to participate. Mothers who had serious disease or delivered babies with disability were excluded from the participation. Sleman district was selected in this study since the highest breastfeeding coverage compared to the other five districts in this province.

The reliability and validity of the instruments in this present study have been tested through statistical analysis and expert review. Reliability coefficient for internal consistency test was set at Cronbach’s alpha > 0.6. Of 135 questions, 61 were found valid and reliable to represent the aims of the study. Moreover, questions have passed reviews by nine experts in two rounds following the contexts without losing the meanings. Design of this research was approved by ethical committee of Universitas Aisyiyah Yogyakarta with reference number 02/Kep-SAY/II/2016.

RESULTS

Government policy to exclusive breastfeeding practices

Government has set four programs in exclusive breastfeeding practice, comprised of: (1) Socialization of Government Regulation No. 33/2012; (2) Implementation of 10 steps to succeed the breastfeeding program; (3) providing breastfeeding rooms; and (4) human resources including counselor and motivator. The role of government policy to exclusive breastfeeding program was presented in the measurement quotation and covariant matrix in Table 1. Value of $R^2$ exhibits the contribution of government policies to those four indicators in exclusive breastfeeding practice.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Indicators</th>
<th>Error variance</th>
<th>$R^2$</th>
<th>Total Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government policy in exclusive breastfeeding practice</td>
<td>Socialization of government regulation No.33/2012</td>
<td>5.88</td>
<td>0.17</td>
<td>7.12</td>
</tr>
<tr>
<td></td>
<td>Implementation of 10 steps to succeed the breastfeeding program</td>
<td>11.27</td>
<td>0.33</td>
<td>16.76</td>
</tr>
<tr>
<td></td>
<td>Breastfeeding rooms</td>
<td>3.39</td>
<td>0.28</td>
<td>4.70</td>
</tr>
<tr>
<td></td>
<td>Human resources</td>
<td>1.49</td>
<td>0.02</td>
<td>1.52</td>
</tr>
</tbody>
</table>

Results presented in Table 1 revealed that government policy mostly contributed to the success of implementing breastfeeding program (33%), providing breastfeeding rooms (28%), and declaring the related government regulation (17%); however, the policy contributed only 2% to human resources. From our assessment,
the highest contribution of the breastfeeding program to the milestone of implementation was presented at the error variance of 11.27 and total variance of 16.76. As the lowest contributor to the success of the program, human resources deliver the influences at error variance of 1.49 and total variance of 1.52.

**Mothers’ perception in exclusive breastfeeding program**

Four indicators of mothers’ perception determining the success of exclusive breastfeeding programs were assessed including value, knowledge, support, and hopes to the programs. Mothers’ knowledge to the breastfeeding was underlined as a significant factor to encourage the initiatives of the program, at the contribution of 52%; and this factor was assessed with error variance of 1.32 and total variance at 2.74. Even presented insignificant role, government may place the consideration to mothers’ attention to construct positive perception among the mothers in exclusive breastfeeding program. Mother’s perception to the program contributed 20% to their support at the error variance of 1.04 and total variance at 1.29. Presented in Table 2, mothers’ perception in exclusive breastfeeding program determined as 10% in mothers’ value and hopes to the program, respectively, at error variance of 1.53 and 1.62.

**Table 2. Summary of quotation measurement and covariant of mothers’ perception and exclusive breastfeeding program**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Indicators</th>
<th>Error variance</th>
<th>$R^2$</th>
<th>Total Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mothers’ perception in exclusive breastfeeding program</td>
<td>Value</td>
<td>1.53</td>
<td>0.10</td>
<td>1.76</td>
</tr>
<tr>
<td></td>
<td>Knowledge</td>
<td>1.32</td>
<td>0.52</td>
<td>2.74</td>
</tr>
<tr>
<td></td>
<td>Support</td>
<td>1.04</td>
<td>0.20</td>
<td>1.29</td>
</tr>
<tr>
<td></td>
<td>Hopes to the program</td>
<td>1.62</td>
<td>0.10</td>
<td>1.81</td>
</tr>
</tbody>
</table>

**Mothers’ participation in exclusive breastfeeding program**

Three indicators convincing mothers’ participation in exclusive breastfeeding program comprise of infrastructure, activity, and mothers’ contribution to the programs (e.g., idea, material, and human resources). Table 3 exhibits the contribution of those three indicators to maximize mothers’ participation in the breastfeeding program. Infrastructure was assessed as the most affected factor determining the mothers’ willingness to participate in the program at the contribution of 50% with error variance at 1.22 and total variance at 2.43. Whilst activity and mothers’ contribution determined the participation, respectively, at 45% and 35%. From the result we noted that the three indicators have important roles in constructing recommendation for improving mothers’ participation in exclusive breastfeeding program.

**Table 3. Summary of quotation measurement and covariant of mothers’ participation and exclusive breastfeeding program**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Indicators</th>
<th>Error variance</th>
<th>$R^2$</th>
<th>Total Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mothers’ participation in exclusive breastfeeding program</td>
<td>Infrastructure</td>
<td>1.22</td>
<td>0.50</td>
<td>2.43</td>
</tr>
<tr>
<td></td>
<td>Activity</td>
<td>4.24</td>
<td>0.45</td>
<td>7.71</td>
</tr>
<tr>
<td></td>
<td>Contribution (idea, material and human resources)</td>
<td>2.55</td>
<td>0.35</td>
<td>3.93</td>
</tr>
</tbody>
</table>
Mothers’ perception to government policy and participation in exclusive breastfeeding program

Presented in Table 4, the standard solution between government policy and mothers’ perception was -0.16. The government policy did not affect significantly to improve mothers’ perception in providing exclusive breastfeeding to their infants. In addition, by Lisrel measurement models we found that the standard solution of mothers’ perception to their participation was assessed at -0.17. It shows that the recent mothers’ perception to exclusive breastfeeding practice will not encourage mothers to participate the program.

Table 4. The completely standardized solutions (Lambda-X) in mothers’ perception in exclusive breastfeeding program to government policy and their participation

<table>
<thead>
<tr>
<th></th>
<th>Government policy</th>
<th>Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception</td>
<td>-0.16</td>
<td>-0.17</td>
</tr>
</tbody>
</table>

DISCUSSION

There is no doubt that government plays a great role for successful breastfeeding program. Regional and local regulations help framing the family and community’s participation in supporting mothers to breastfeed exclusively. In this present study, of four indicators, only two significantly succeed in explaining government regulations: (1) monitoring of ten steps for successful breastfeeding; and (2) the provision of breastfeeding room. Socialization and human resources (facilitator and counselor) were not statistically satisfying as indicators to explain government regulations, perhaps, because the numbers of existing human resources were not adequate to present effects to breastfeeding practice. The socialization of government regulation on breastfeeding was also lacking, partly because the community demands on information that was also inadequate. In addition, it was driven by the unattractiveness of media promotion on breastfeeding which was only limited to conventional media such as leaflet, brochure, and advertisement board.

Social Cognitive Theory of Bandura posited that individuals are willing to adopt a new behavior when the internal and social circumstances are supporting. One needs to believe that behavior will bring positive outcomes before engaging and make it sustainable. Self-efficacy contains of skills to perform the new behavior and it influences behavior reciprocally. Skill will increase the likelihood of one to practice the new behavior, and by repeating the new behavior over times, it will increase one’s self-efficacy. In exclusive breastfeeding program, mothers will be more likely to breastfeed when they feel confident and believed that breastfeeding will bring a lot of benefit for their babies. Simultaneously, when mothers practice breastfeeding overtimes, it will increase their self-efficacy in performing the feeding.

The study confirmed that mothers’ perception on the importance of exclusive breastfeeding was formed by norms, knowledge, support and expectation. The internal norms comprise of information and intuition that are incorporated into mother’s point of view to breastfeeding. The internal norms are influenced by external drives such as culture, belief and knowledge. Therefore, norms of breastfeeding are strongly correlated to mother’s knowledge which is the result of her interpretation of the culture, belief and
information she has stored. Support in this study refers to family care and social support. Since breastfeeding is a personal experience, a private space is needed for mother to breastfeed comfortably. Beside breastfeeding rooms in workplace, prolonged maternity leaves can be given for mothers as a support to breastfeed exclusively. Family supports, especially husband, also contribute to a successful breastfeeding. Mother’s perception is also determined by her expectation of the cost and benefit towards breastfeeding. When mothers believed that breast milk is beneficial for the children and exclusive breastfeeding will improve the baby’s immune system and growth, mothers’ perception is likely to be positive.

Unexpectedly, knowledge was found as the only indicator that contributed to the forming mothers’ perception whilst the other three indicators namely social norms, support and expectation of mothers were not strong enough in forming the variable. This findings marked a need in improving mothers’ knowledge in order to build mothers’ perception. It does not mean that only improving knowledge will improve perception, but the influence of norms, support and expectation will be stronger when knowledge is improved. Therefore, although norms, support and expectation are found to be insignificant, nevertheless, it cannot be denied that the three factors are important to improve mothers’ perception on breastfeeding.

Although in practical level government supposed to play big role for successful breastfeeding program, the present study found only a weak correlation between government regulation and mothers’ perception. The insignificant findings perhaps was caused by unfamiliarity of mothers towards the government regulations as by nature women are less concerned about regulation but more engaged in practice. Furthermore, the dissemination of information on government regulation No.33/2012 regarding breastfeeding was lacking. Most mothers do not understand that by law, exclusive breastfeeding is every child’s right. 12

Not only breastfeeding practice, childcare, when the mothers are working, is also a problem on its own. The unavailability of breastfeeding room in working place may increase the barriers for working mothers to breastfeed their babies. Although it’s protected by the existing law, the implementation in the working place is far from satisfying. Therefore, future regulation should encourage working place to have better support towards exclusive breastfeeding by providing more space and time for breastfeeding mothers to care their child. Simultaneously, program addressing knowledge of regulation can be designed in order to improve mothers’ perception towards breastfeeding.

Future programs also should involve community participation in order to develop more positive perception towards exclusive breastfeeding. Mothers should be promoted to be involved in support groups in order to exchange their experiences in breastfeeding. From the peers, mothers may acquire a better understanding of the importance of breast milk versus formula milk, and also eliminate the negative perception towards breastfeeding such as misconception on colostrum, rooming in, and restriction to breastfeed during illness. As peer and community supports are strong predictors of successful breastfeeding 6,7,13 therefore, the need to increase the number of peer counselors becomes more important. The lack of peer counselor who can persuade mothers to breastfeed is a big inhibitor since it may reduce the likelihood of mothers to join support group.
A weak correlation was found in the relationship between mothers’ perception to participation and exclusive breastfeeding; because not all mothers perceived that exclusive breastfeeding is necessary for their babies. Theoretically, the likelihood of behavior to occur is determined by many factors including internal and external drives. This study confirmed that perception as internal factor is strongly correlated to knowledge whilst breastfeeding practice is highly associated to the infrastructure and program activities (external). This means, knowledge can be the bridge to improve perception that will eventually improve practice.

The weak association between perceptions to exclusive breastfeeding practice perhaps was also caused by the nature of adoption of a new behavior which depends on many factors such as intention, attitudes, belief on cost and benefit of the behavior, and motivation to comply.14-16 The direction of chosen action of a person will be influenced by the beliefs regarding the action, and not only her perception.15 Therefore, even though mothers’ perception was good, the association of others factor might be stronger to affect exclusive breastfeeding practice. Mothers may spend more time to contemplate because perception itself has already involved cognition process where one’s considering the consequences of a new behavior.17

ACKNOWLEDGEMENT
The authors extend great appreciation to Universitas Aisyiyah Yogyakarta for research and education support.

CONCLUSION
This study confirmed that successful breastfeeding is associated to internal (knowledge) and external (the availability of resources and program activities) factors. Although there was only a weak association between government regulation to mothers’ perception and between mothers’ perception towards exclusive breastfeeding practice, the study highlights the importance of providing adequate information to improve mothers’ knowledge on exclusive breastfeeding. By knowledge improvement, mothers will have better perception which in turn will improve their self-efficacy and practices in breastfeeding.

REFERENCES


EMPOWERING WOMEN’S ORGANIZATIONS FOR ANEMIA PREVENTION AND CONTROL IN TRIMURTI VILLAGE, SRANDAKAN SUB-DISTRICT, BANTUL, YOGYAKARTA, INDONESIA

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ABSTRACT

Background: Anemia in Indonesia is mostly caused by micronutrient deficiency such as iron. Although much have been done to address anemia in the community, the problem remains. As health is not solely government’s responsibility, community participation should be seen as an alternative effective approach.

Objective: The influence of women’s organizations to community participation and their self-sustenance in anemia prevention and control was examined.

Methods: It was a quasi-experimental study with pretest and post-test control group design involving 30 women in reproductive-age who were selected through a multi-stage random sampling method; and 20 health providers, of whom were members of Dasa Wisma, posyandu cadres, PKK, and Karang Taruna. At the intervention group, women’s organization in anemia prevention and control was enabled in order to increase community participation. Hemoglobin level was measured as the outcome of the intervention program.

Results: By empowering women’s organization, participation level of community members in the intervention group significantly increased, shown by family’s willingness to provide and consume iron-sufficient foods in their daily diets. As an outcome, hemoglobin level of reproductive-aged women at the intervention group slightly raised from its initial level, whilst the level in the control group was relatively stagnant.

Conclusion: Involving the community member has been proven as an effective approach in anemia prevention and control. Given that women’s social movement are existed in many settings, therefore, empowering such organization as a manifestation of community participation can be applied in other setting, and also for other health program.

Keywords: Anemia, women’s organization, empowerment, community participation
INTRODUCTION

Many women in both developed and less-developed nations suffered from anemia. Globally, the highest prevalence of anemia was found among pre-school children, adult women and pregnant women with 76, 63, and 69 percent respectively.\(^1\) Basic health research in 2016 reported 40 percent of pregnant women and 49 percent of women in Yogyakarta suffered from anemia.\(^4\) The high prevalence of anemia alarms the importance of anemia control because studies found that the consequences of anemia include reduced energy and capacity for work, poor pregnancy outcomes and elevated maternal and infant mortality.\(^5\)–\(^8\)

Although deficiency of folic acid and cyanocobalamin (vitamin B12) is prevalent, iron deficiency is common as the major cause of anemia in Indonesia. It is estimated, about 36 percent of population in low or middle income countries suffered from iron deficiency whilst in high income ones the prevalence of anemia only counted for 8 percent.\(^9\) Although much have been done to address anemia in the community, the problem remains. As health is not solely government’s responsibility, community participation has received more attention during the past three decades. Scholars found, community involvement in health program has been acknowledged as a critical component to achieve effective and sustainable development program, including health and its social determinants.\(^10\)–\(^12\)

Given the nature of Indonesia’s social organization where women’s participation in social activity is widely found as Family Welfare Movement (referred as PKK – Pembinaan Kesejahteraan Keluarga – in Indonesia), empowering women for anemia control becomes an effective choice.\(^11\) In every village, FWM has been long established since Suharto era, mostly was designed to assist women in family planning program. In the recent times, cadres are volunteers assigned as supervisor for many health programs in their neighborhood. By involving their own community members, it is expected, the health program will obtain higher participation and sustainable. Therefore, this study aims to examine the influence of women’s organization to community participation and their self-sustenance in anemia prevention and control.

METHODS

Participant and Health Provider Selection

This research was a quasi-experimental study with pretest and posttest control group design. We identified the benefits of woman organization empowerment for anemia control. Representing the area with highest anemia prevalence and community participation level in D.I. Yogyakarta province, samples in Trimurti village, Srandakan sub-district, Bantul district were selected as the study site. Our assessment was conducted at two sub-villages, Celan and Bando sub-village, which later pronounced, respectively, as experimental and control group. This study involved 30 women in productive age, selected through a multi-stage random sampling method, with these following inclusive criteria: (1) aged 20 to 35 years; (2) willing to participate; and (3) settling in the site study. Subjects who severe Tuberculosis (TBC) and malaria were excluded for participation.

Health providers comprised of women’s groups in grassroots level, which contribute to anemia control, included the members of household cluster (Dasa Wisma) and also female teenager groups (Karang Taruna), and individuals in family welfare movement group (Pembinaan Kesejahteraan Keluarga,
PKK) who work in neighborhood health center (Posyandu). Health providers comprised of 20 individuals where 10 persons are the members of Dasa Wisma, 5 PKK members who work at Posyandu, and the other 5 health contributors are the fellows of Karang Taruna.

Women’s Organization Empowerment

We documented the processes of women’s empowerment at low administrative level, sub-village, and assessed health providers’ knowledge and skills, and also their self-sustenance related to anemia prevention and control. This process was begun with a focus group discussion with agenda to cover anemia issue in the experimental sub-village. The head of the sub-village facilitated the establishment process of the women’s organization. After forming the anemia control organization in this experimental sub-village, Celan sub-village, then, we trained the established organizations which contributed to the anemia control. Training materials – (1) method to identify anemia; (2) technical assistance; and (3) documentation system in controlling anemia – were given to the health providers at the experimental group whilst no inputs were obtained by the cadres at the control group. Members of women’s organization who received training were then required to identify anemia by detecting the symptoms and signs of anemia and providing technical assistance and also observing community’s food patterns throughout the three months period of the study. Observed data was stored in the village health post (Posyandu) for further analysis.

Key Success Indicators

We employed a descriptive method to analysis the level of community participation among the selected productive women. Interview and observation were used for scoring participation level from zero (0) to hundred (100). The success of women’s empowerment in anemia control was also projected by level of Hemoglobin (Hb) in the involved participants. The Hb level among the eligible correspondents before and after intervention was measured using Test Meter Kit at Srandakan Health Center by the health providers. The Hb level in the experimental group was later compared to the control group. All observed parameters were exhibited as Mean ± Standard Deviation (SD), and T-test method was conducted to compare the mean difference before and after interference. The processes of documentations and observations, and the instrumental measurements were approved by ethical commission of Politeknik Kesehatan Kementerian Yogyakarta with reference number LB.01.01/KE/XIII/144/2016.

RESULTS

Knowledge and skill improvement among the health providers

Our assessment towards the health provider in the two sub-villages, which later pronounced as experimental and control group, exhibited that there is no difference in the initial knowledge and skill score to anemia control. The insignificant difference confirmed the similar characteristic of the involved respondents at those two groups. Scores ranged at 40 to 75 in the Celan sub-village (the experimental group) whilst the grades among the health providers at Bando sub-village (the control group) ranged 40 to 61.43. Data in Table 1 presents that the materials given to the health providers significantly improved the score of the observed parameters. Cadres at experimental group answered the matters related to anemia better than the providers at the control group. Knowledge and skills
among the health providers increased after obtained training materials from 61.43 (± 8.0) to 95.0 (± 4.4). Contrary to the control group, with no empowerment given to the health-related organization, knowledge and skills among the health providers remained at same level.

Table 1. Scores of health providers’ knowledge and skills related to anemia control at experimental and control group responded to organization empowerment

<table>
<thead>
<tr>
<th>Observed variables</th>
<th>Group</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experiment</td>
<td>Control</td>
</tr>
<tr>
<td>Knowledge and skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Mean ± SD</td>
<td>61.43 ± 8.0</td>
<td>61.43 ± 7.7</td>
</tr>
<tr>
<td>Range</td>
<td>40-75</td>
<td>40-61.43</td>
</tr>
<tr>
<td>After Mean ± SD</td>
<td>95.0 ± 4.4</td>
<td>62.85 ± 6.6</td>
</tr>
<tr>
<td>Range</td>
<td>90-100</td>
<td>50-75</td>
</tr>
</tbody>
</table>

Organization empowerment attracts community and other parties’ concern to anemia control

Data presented in Table 2 supports the agreement stating that empowering women’s organization at sub-village levels significantly rises people's attention to anemia prevention and control program. Began with the low score of participation at 20 for the two site groups, the grades significantly increased if training materials were provided to the health providers prior to anemia control and prevention programs exposed the community. At the experimental group, the community participation level increased after material supplied to the health contributors from 60.66 (± 28.03) to the score of 82.00 (± 27.46). At the control group, we found that the level of community participation remained similar if no methods, technical assistance and training were given to the health providers before they conducted health-related programs to the society.

Table 2. Community participation related to anemia control and Hb level at experimental and control group responded to organization empowerment.

<table>
<thead>
<tr>
<th>Observed variables</th>
<th>Group</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experiment</td>
<td>Control</td>
</tr>
<tr>
<td>Participation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Mean ± SD</td>
<td>60.66 ± 28.03</td>
<td>54.66 ± 22.85</td>
</tr>
<tr>
<td>Range</td>
<td>20-100</td>
<td>20-100</td>
</tr>
<tr>
<td>After Mean ± SD</td>
<td>82.00 ± 27.46</td>
<td>55.16 ± 22.85</td>
</tr>
<tr>
<td>Range</td>
<td>80-100</td>
<td>20-100</td>
</tr>
<tr>
<td>Hb level (g/dL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Mean ± SD</td>
<td>12.36 ± 2.02</td>
<td>12.03 ± 1.79</td>
</tr>
<tr>
<td>Range</td>
<td>7.90-16.60</td>
<td>6.50-14.30</td>
</tr>
<tr>
<td>After Mean ± SD</td>
<td>13.54 ± 1.02</td>
<td>12.55 ± 1.79</td>
</tr>
<tr>
<td>Range</td>
<td>12.0-16.6</td>
<td>10.0-15.0</td>
</tr>
</tbody>
</table>

We also underlined the impact of attracting community concern to anemia control and prevention program. From the beginning there was no program lifting anemia issues in those two study sites. A 2-month anemia-related program at experimental group – began with problem identifications; defined anemia symptoms among the reproductive aged women; group counseling; family assistance; and Hb level measurement – increased community awareness to anemia. Since
our inputs to the health providers succeed to rising people’ willingness to anemia-related program, it followed with an increase of self-sustenance among the groups in the society.

From focus group discussion we list the community setting agendas to cover anemia issue in the experimental sub-village. The existing women’s organization roles to provide human resources rising anemia issues in the society. The members of the society itself have significant contribution to rising awareness in family level and are expected to invite family members to participate the programs. Community dealt with a commitment to contribute financially and seek others’ fundraising to maintain the sustainability of the programs. The collected fund will be used wisely for meeting, the provision of stationary, and purchasing iron tablets. This program also attracted attention of community leader and other health providers to support the sustainability of programs. Whilst health providers (nutritionist, midwifery, and health promoter) advised the involved women’s organization in assessing anemia-related matters, the head of sub-village provided rooms and other required infrastructures for meeting. This expanding participation shows the empowerment of women’s organizations will not only emphasis the targeted community participation, but also encourage the other related parties to maintain the sustainability of programs.

The success of increasing Hb level

We declared the Hb level as an indicator to the success of anemia control and prevention programs. Shown in Table 2, the intervention to the women’s organization resulted with an increase of the Hb level among the involved reproductive aged women from $12.36 \pm 2.02$ g/dL to $13.54 \pm 1.02$ g/dL. There is no significant difference of Hb level initially between experimental and control group which exhibited that the intervention was the factor influenced the changes of Hb level.

DISCUSSION

Since Alma Ata declaration in 1978 where WHO introduced the policy of Primary Health Care (PHC), community participation in health program has received a lot of attention. The idea that lay people, not only health provider, can contribute to community health was seen as controversy at its first establishment. Nevertheless, the crucial role of community in health improvement has been proven in many studies especially considering limitation of health services and medicine. Community resources such as human resources, money, materials and time can be utilized to improve their own health by increasing participation.\textsuperscript{12,13}

Community participation has been traditionally defined as people mobilization to uptake an intervention.\textsuperscript{12} The notion of participation itself can be varied, ranged from active to passive; can be contributive, collaborative or transformative.\textsuperscript{12} Empowerment on the other hand, is seen as creating opportunities for those without power to gain knowledge, skills and confidences to be able to take their own decision.\textsuperscript{12} The present study hypothesizes, empowering women’s organization at village level may increase community participation for anemia prevention and control. It can be understood since the community members who are involved in anemia control comprised of family, member of household cluster ($\textit{Dasa Wisma}$), Family Welfare Movement ($\textit{PKK}$), Youth organization ($\textit{Karang Taruna}$), Integrated Health Post ($\textit{Posyandu}$), and community leaders who were considered as key persons in the community.
The finding of the present study showed that after women’s organization being activated and empowered, hemoglobin level of women at reproductive age at the intervention group (Dusun Celan) are slightly higher (13.54 g/dL) than their counterpart in Dusun Bendo as control group (12.55 g/dL). Among the intervention group itself, the hemoglobin level increased from 12.36 g/dL prior the intervention, to 13.54 g/dL after the intervention. Whilst in the control group which did not receive any intervention, the hemoglobin level was relatively stable at 12.03 g/dL before the intervention, to 12.36 g/dL after the intervention was taken place.

The result implies, empowering women’s organization for anemia prevention and control affected women’s health status, shown by the increasing hemoglobin level in the intervention group. Women’s organization seems to have successfully increased awareness on anemia of individuals and groups in the community. Women’s organization has successfully persuaded families’ willingness to engage in healthier life style for anemia prevention which depicted from the provision and consumption of healthy diets with sufficient iron in their daily life. The facilitation and supervision of women’s organizations in the intervention group has significantly increased family awareness to consume foods containing iron in order to maintain hemoglobin at a normal level. As the result, hemoglobin level of reproductive-aged women at the intervention group showed a higher increase compared to their control counterpart. Moreover, community participation can be seen from their active roles in anemia prevention and control such as regular health check-up and keeping a healthy environment.

The study reported, score of community participation in Celan sub-village as intervention group showed an increased, from 60.66 prior to the intervention to 82.0 after the intervention. Whilst in the control group (Bendo sub-village) the level of community participation remained stagnant at 54 (at the initial stage) to 55 at the later stage. Initially, anemia prevention and control in both villages have not yet supported by the community members. Family, community leaders, women and youth organization were existed but not yet being involved in the program. The empowerment program then enabled all those influential persons to work in one frame.

Family as the smallest unit in the community plays a great role in anemia prevention and control. At the family level, healthy behavior is all started from the provision and consumption of adequate and balanced nutrition for daily diets. Village volunteers (cadre) and community leaders supervised and provided advices in nutrition intake as well as technical assistances to families inside their administrative boundaries. As families become empowered in anemia prevention and control, self-sustenance will be achieved, along together with health education and early diagnosis which operated in village level.

The findings of the study confirmed that community members as beneficiaries of health programs are supposed to be placed at the same level as policy makers and stakeholders, and not as their inferiors. Learning process between health educators and the recipient is not supposed to be vertical but instead as a participatory learning where both parties are at the same level. Health improvement as the result of community participation is therefore be seen as bottom-up changes rather than enforcement from the top. The successful of a program with community participation approach then is defined when community
acknowledge their own needs and methods to fulfill their livelihood by enhancing their own potential.

Women’s organization for anemia prevention and control in the present study utilized the existing women’s social movement such as FWM (PKK) and household cluster (Dasa Wisma). As it has been noted before, during Suharto’s era, women’s social movement was the key player on the success family planning program. The existence of such organization in the present time thus can be the capital of anemia prevention and control. The availability of any social institutions in the community has been proven as a good catalyzer for program to take place.

Community leaders are the key persons in anemia prevention and control. Village leaders, hamlet leaders and the head of housing cluster as well as the head of female welfare movements are having a considerable role in increasing community awareness by motivating, facilitating and being the role model for the society. Facilitation of the community leaders enabled the program to be implemented in order to improve health status of the community.

CONCLUSION

Involving community member has been proven as an effective approach in anemia prevention and control. By empowering women’s organization, the present study showed that participation level of community members in the intervention group significantly increased, shown by family’s willingness to provide and consume iron-sufficient foods in their daily diets. As an outcome, hemoglobin level of reproductive-aged women at the intervention group was found significantly raised from its initial level, whilst in the control group relatively stagnant. Given that women’s social movements are existed in many settings, therefore, empowering such organization as a manifestation of community participation can be applied in other settings, and also for other health programs.

REFERENCES


PAIN INTENSITY AND PAIN INTERFERENCE AMONG TRAUMA PATIENTS: A LITERATURE REVIEW

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ABSTRACT
Background: The incidence of trauma has been high and has gained attention worldwide. The energy involved in trauma results in specific tissue damage. Such tissue damage generally leads to pain. The high pain intensity possibly is consequence of trauma due to transfer energy to the body from external force and absorbed in wide area. This pain affected patients’ physical and psychological function, in which well known as pain interference.
Objective: The aim of this review is to describe the pain intensity and pain interference among trauma patients.
Method: A systematic search of electronic databases (CINHAL, ProQuest, Science Direct, and Google scholar) was conducted for quantitative and qualitative studies measuring pain intensity and pain interference. The search limited to hospitalized trauma patients in adult age.
Results: The search revealed 678 studies. A total of 10 descriptive studies examined pain intensity and pain interference and met inclusion criteria. The pain intensity and pain interference was assessed using Brief Pain Inventory (BPI). Pain intensity of hospitalized trauma patients were moderate to severe. These including 6 studies in orthopedic trauma, one study in musculoskeletal, two in studies in combinational between orthopedic and musculoskeletal, and two studies in burn injury. Moreover, the patients also reported pain was relentless & unbearable. In accordance, data showed that pain interference was moderate to severe from six studies. These studies result in vary of functional interference. However, those studies examined pain interference on sleep, enjoyment of life, mood, relationship with other, walking, general activity, and walking.
Conclusion: The evidence from 10 studies included in this review indicates that hospitalized trauma patients perceived moderate to severe pain intensity and pain interference. Further research is needed to better evaluate the pain of hospitalized trauma patients.

Keywords: pain, traumatic pain, acute pain, pain interference
INTRODUCTION

Trauma is the leading cause of death throughout the world.\textsuperscript{1} It also recognized that fall and traffic accident are the main causes.\textsuperscript{1} United States and European countries noted that the incident of trauma remain high in each year, 2.3 and 5.7 million, respectively.\textsuperscript{2} Developing countries have mortality rates that are higher than developed countries.\textsuperscript{3} According to this OECD, average injury mortality was estimated to be 88 deaths per 100,000 population in 2008 in Asian countries.

Trauma incident results in pain that closely related to acute pain, which typically self-limited and resolves over days to weeks, or even persist for three months.\textsuperscript{4} Pain in trauma is occurred due to tissue damage and leads to direct stimulation to nociceptor and neuropathic.\textsuperscript{5} Nociceptive pain results from activation of primary afferent nociceptors (A-delta and C-fibers), while neuropathic results from aberrant signal processing in the peripheral or central nervous system. Moreover, pain in trauma consider have differed from other pain because it varies of mechanism involve including blunt, penetrating, blast, thermal, and chemical.\textsuperscript{6} Also, the transfer energy to the body from external force and absorbed in wide area.\textsuperscript{5}

A symptom management model provides explanation about symptom.\textsuperscript{7} There are three main components in this model, symptom experience, management strategies, and outcome. In this model, the symptom defined as the subjective experience represents the dynamic of the bio-psychosocial functioning, sensation, or cognition of the person.\textsuperscript{7} One of the symptoms mentioned in this model is pain. As a symptom pain is an indicator of change in the body that is recognized by oneself or another. Recognition of pain leads to strategies in order to relieve and prevent adverse effect. Thus, the outcomes are related to pain and it management. For example, traumatic pain affect the patients’ physical (e.g. muscle tension or atrophy and immobility) and psychological distress, such as anxiety.\textsuperscript{8,9} However, this study will focus on the pain intensity and pain interference. Meanwhile, pain management strategies are discussed in other series of this study.

Pain intensity is defined as a highly personal experience that can only be accurately described by the person who has pain. Accordingly, pain interference patient perception of the particular interference caused by pain with physical and psychological function.\textsuperscript{10,11} This implied that both of pain intensity and pain interference are subjective that requires patients rating. However, published research have mostly assessed acute pain of postoperative patients as well as pain interference.\textsuperscript{12-14} For instance, a study of Suza \textsuperscript{13} describe the acute pain of 120 patients after abdominal and orthopedic surgery. This study found reported that patients perceived pain at its worst at severe level, on average and right now as moderate level. Also, patients rated moderate to severe level of pain interference in physical and psychological functional.

Moreover, the subjective experience of symptom and outcome are influenced by many factors, such as health and illness factors.\textsuperscript{7} At this point, the
mechanism after trauma may make patients identify pain more complicatedly than patients after elective surgical pain. Clinicians and researcher can benefit from more detail of pain intensity and pain interference among trauma patients. Also, the necessary knowledge regarding both of variables will be useful for improvement the quality of care. Thus, the aim of this present literature review is to determine pain intensity and pain interference among trauma patients.

**METHODS**

Electronic searches were conducted to identify English journal published 2006 to 2015 in the CINHAL, ProQuest, Science Direct, and Google scholar. The search terms were ‘trauma’, ‘injury’, ‘accident’, ‘pain’, ‘pain interference’, and ‘functional’. Descriptive studies with adult, hospitalized, and trauma population were eligible for inclusion criteria. Furthermore, the researcher has reviewing article titles and abstracts from the publications retrieved.

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**Figure 1. Flow diagram depicting the systematic review process**

Figure 1 depicts the process used to identify and select relevant journal articles. The articles that are relevant were read and analyzed carefully to synthesize the methodology and findings. From the overall 57 relevant articles, 10 articles were selected through analysis for this
The review included 3196 trauma patients from 10 studies. Sample sizes for each study range from 60 to 1290 participants with ages of participants above 16 years old. Assessment was conducted during hospitalization, two studies at emergency department, one study at hospital discharge, two studies after patients had surgery. The majority of participants were admitted due to MVC and fall with the length of hospital stay ranging from 1 to 14 days in hospital.

RESULTS
Pain Intensity and Pain Interference of Trauma Patients

According to the International Association for the Study of Pain (IASP), pain is unpleasant experience involving sensory and emotional that related to potential tissue damage. Not surprised if trauma patients have experienced pain initiated right after injury. Traumatic pain is acute and primarily nociceptive and not neuropathic in nature. Also, it is believed to be unlike with other pain due to uncontrolled destructive force. The transfer of energy that absorbed by wider and deeper are result in greater pain intensity. Thus, most of trauma patients reported high level of pain intensity.

Indeed, traumatic pain affected to individuals function (physical and psychological). Traumatic pain activated response on all body systems. The physical and psychological disturbance resulted by pain is pain interference. The physical functioning included the interference of general activity, movement, sleep, and relationship with others, whereas the psychological and social functioning included determining how pain interfered with mood and enjoyment of life.

Studies have been conducted in describing pain intensity and pain interference. Most of studies reported numeric rating scale (NRS) as tool to measure pain (see Table 1). Five of studies in this review used NRS of brief pain inventory (BPI) to assess both of pain intensity and pain interference. One study used visual analogue scale (VAS) in McGill Pain Questionnaire.

A total of 10 western studies described pain intensity of trauma patients as moderate to severe, while only three studies assessed pain interference. Those who studied pain interference found that patients rated moderate to severe of pain interference. Detail of the studies is presented as follows:

Archer, Castillo, Wegener, Abraham, Obremskey assessed pain intensity and pain interference with brief pain inventory (BPI) of 233 orthopedic trauma patients, 97% of patients reported having pain at hospital discharge, with 38% reporting mild pain, 35% moderate pain, and 24% severe pain. Also, 73% of patients who reported pain also rated moderate to severe pain interference. It also found that the walking ability and the general activity were rated highly frequent interference followed by sleep, enjoyment of life, mood, and relationship with others. Similarly, Platts-Mills, Burke, Lee, Swor, Zaleski, Clauw, McLean studies in 156 of orthopedic and musculoskeletal trauma patients. This
study found that patients reported moderate to severe of pain intensity and pain interference as measured by BPI. The pain interference mostly affected to walking (M=5.1/10) and general activity (M=4/10). Likewise, although did not study in pain interference, however, Berben et al found that majority of 480 orthopedic and musculoskeletal trauma patients perceived moderate to severe pain intensity. More musculoskeletal patients, study in metropolitan hospital conducted by Rosenbloom found that 80% of 205 Canadian patients with musculoskeletal injury perceived moderate to severe level of pain intensity and pain interference during their 14 days of hospitalization. However, no further detail regarding functional impacted.

Table 1. Pain intensity and pain interference at studies reviewed

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Pain measure</th>
<th>Pain Intensity</th>
<th>Pain Interference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berben et al. (2008)</td>
<td>N= 450 Orthopedic &amp; musculoskeletal</td>
<td>NRS</td>
<td>Moderately or severe</td>
<td>-</td>
</tr>
<tr>
<td>Williamson et al. (2009)</td>
<td>N=1290 Orthopedic</td>
<td>NRS</td>
<td>Moderately to severe</td>
<td>-</td>
</tr>
<tr>
<td>Clay et al. (2010)</td>
<td>N= 108 Orthopedic</td>
<td>High</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Browne et al. (2011)</td>
<td>N=492 Burn Injury</td>
<td>BPI</td>
<td>During resting M=6.05 (SD=2.51); Dressing change M=7.40 (SD=2.48); Physical activity M=6.65 (SD=2.68)</td>
<td>-</td>
</tr>
<tr>
<td>Wylde et al. (2011)</td>
<td>N=105 Orthopedic</td>
<td>VAS</td>
<td>Moderate or severe (mostly feel lower in night)</td>
<td>-</td>
</tr>
<tr>
<td>Helmerhorst et al. (2012)</td>
<td>N= 60 Orthopedic</td>
<td>NRS</td>
<td>Moderately to severe</td>
<td>-</td>
</tr>
<tr>
<td>Andrews et al. 2012</td>
<td>N= 97 Burn Injury</td>
<td>BPI</td>
<td>M=3.29 (SD=1.97)</td>
<td>-</td>
</tr>
<tr>
<td>Archer et al. (2012)</td>
<td>N= 233 Orthopedic</td>
<td>BPI</td>
<td>38% mild; 35% moderate; 24% severe pain</td>
<td>Moderate to severe</td>
</tr>
<tr>
<td>Platts et al. (2012)</td>
<td>N= 156 Orthopedic &amp; musculoskeletal</td>
<td>BPI</td>
<td>Moderate or severe</td>
<td>Moderate or severe</td>
</tr>
<tr>
<td>Rosenbloom (2014)</td>
<td>N= 205 Musculoskeletal</td>
<td>BPI</td>
<td>M=5.4(SD=1.86)</td>
<td>M=7.07(SD=2.33)</td>
</tr>
</tbody>
</table>

Burn injury patients also reported moderate to severe pain intensity. Both of studies noted that patients perceived more pain during dressing changes. Because of this procedure is manipulating the existing inflamed tissue, thus contribute to rising of pain intensity. Andrews, Browne, Wood, Schug noted that the patients burden of dressing changing leads to psychological disturbance such as depression. Some patients may perceive major trauma and procedure such as surgery is necessary. In postoperative studies, the
patients’ perception of pain intensity is moderate to severe.\textsuperscript{17,25} Almost all of 105 patients with postoperative due to orthopedic trauma demonstrated moderate to severe as measured by Visual Analogue scale (VAS).\textsuperscript{25} In this study, the pain intensity measure as much as five times per day within three days post operative. The time frequency included morning, midday, afternoon, evening, and night. Mostly, the patients reported pain at day one is a peak of intensity then decrease following day. Also, night time is the lower of pain perceived compare to other times.\textsuperscript{25} In correspondence, the study of Helmerhorst, Lindenhovius, Vrahas, Ring, Kloen\textsuperscript{17} showed that sixty American patients after surgery due to ankle fracture are reported severe pain. The patients are evaluated their pain intensity after surgery and when suture removal (i.e. five days) and decreased over time.

DISCUSSION

The aim of this review was to described pain intensity and pain interference that reported by trauma patients. Most of studies have asked patients to rate NRS. The finding demonstrate that trauma patients perceived moderate to severe pain intensity during one to 14 days of their hospitalization. As well as pain interference reported by three studies. In addition, there is evidence that pain was decreased over time.

Nine studies used NRS and one study used VAS. These scale different in term of the way patients give rating. NRS is more practical than a VAS, easier to understand for most people, and does not need a clear vision, dexterity, paper, and pen.\textsuperscript{26} However, Both the VAS and NRS agree well and are equally sensitive in assessing acute pain.\textsuperscript{26,27} Moreover, in the nine studies that used NRS, five were used pain intensity scale of BPI. The BPI assesses the pain severity and the degree of interference with function. The patient rates their present pain intensity, ‘pain now’, and pain ‘at its worst’, ‘least’, and ‘average’ over the last 24 hours. Also, they are asked to rate how much pain interferes with seven aspects of life (general activity, walking, normal work, relations with other people, mood, sleep, and enjoyment of life).\textsuperscript{28} It has proven reliable (Cronbach’s alpha > .80) and valid (highly correlated with the short form-36 brief pain scale, the Roland Disability Questionnaire, the McGill Pain Questionnaire, and the Visual Analog for pain) in surgical patients.\textsuperscript{29}

Orthopedics injuries are the most prevalent type of injury; also MVC and fall are the main causes of hospital admission. Patients with orthopedics tent to rated moderate to severe pain intensity, thus results in same level of pain interference. The several of body region involvement in orthopedic injury results in high pain intensity.\textsuperscript{6,20} Likewise, burn injury patients also perceived moderate to severe level of pain intensity, in more particularly during the dressing change. The existing tissue damage areas are inducing pain sensation.

The most frequent pain interference from three studies was walking ability and general activity. With regards that participants from this studies were orthopedics and musculoskeletal injury. Not surprise if the pain interference to most of physical functional related to extremities. Moreover, Archer, Castillo,
Wegener, Abraham, Obremskey also found that enjoyment of life and mood were disturbed. High pain intensity affected patient psychological function.

CONCLUSION
The evidence from 10 studies indicates that trauma patients perceived moderate to severe pain, in particular during hospital stay. The NRS of BPI were most frequent tool used to assess pain of trauma patients. This includes pain interference. The available evidence seems to suggest that trauma patients perceived moderate to severe level of pain interference during hospitalization. In addition, current literatures on these variable abounds with examples of western studies in trauma patients due to MCV, fall, and burn injury.

The limitation of this study include small sample size and did not analyse the factors. Many of studies did not reported pain interference, while only limited to three studies.

Overall, the results from this review indicate the recommendation to future research in traumatic pain. This can be conduct in hospital setting within one to 14 days of admission. This knowledge leads to awareness of healthcare provider to provide good pain management for trauma patients. To emphasis the knowledge, understanding this phenomenon in Eastern country and developing country is necessary.

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NURSING STUDENTS’ BARRIERS IN CARING FOR SCHIZOPHRENIA PATIENTS WITH VIOLENCE RISK

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ABSTRACT

Background: There is a general consensus that schizophrenia patients have a greater risk to become violent. Caring for schizophrenia patients with risk of violence presents difficult clinical challenges, and it complicates the efforts of nursing student. Analysis of nursing student’ barriers may lead to improve nursing management of risk of violence.

Objective: The aim of this study is to explore the nursing student barriers in for caring schizophrenia patients with violence risk.

Method: A total sample of 22 nursing students completed their experience through reflective diary during clinical placements. The qualitative data were explored through thematic analysis method using NVivo.

Results: Three themes were emerged from the data included: emotions, personal experience, and inadequate communication skills.

Conclusion: These themes reflected the barrier of the nursing students when they applied nursing care toward schizophrenia patient with violence risk. Knowing the barriers is very important for successful violence risk management for nursing student.

Keywords: barrier, schizophrenia, violence risk, nursing students, qualitative study.

INTRODUCTION

Violence among adults with schizophrenia follows two distinct pathways that are associated with antisocial conduct, acute psychopathology of schizophrenia. Violence in people with serious mental illness probably results from multiple risk factors in several domains. Although there is a relatively small percentage of psychiatric patients who are violent, evidence from a number of studies indicates that certain subgroups of psychiatric patients, including patients who abuse substance, have psychoses, and...
are non adherent to treatment, are at a greater-than-normal risk of being violent.\textsuperscript{3} A systematic review and meta analysis about schizophrenia and violence showed that there was a modest but a statistically significant increase of risk of violence in schizophrenia with an odds ratio (OR) of 2.1 (95\% confidence interval [CI] 1.7–2.7) without co morbidity, and an OR of 8.9 (95\% CI 5.4–14.7) with co morbidity with substance abuse.\textsuperscript{4}

Stigma in caring schizophrenia with violence risk might be fearful by nursing student at their first clinical placement. This is consistent with the research findings, assaults by psychiatric patients that contribute to the stigma of mental illness.\textsuperscript{5} The patient populations more likely to become violent and the mental healthcare staff at the greatest risk of becoming their victims.\textsuperscript{6} Assaults by patients and families are likely to be directed towards young physicians who are early in their medical careers.\textsuperscript{7} The challenge for medical practitioners is to remain aware that some of their psychiatric patients do, in fact, pose a small risk of violence, while not losing sight of the larger prospective—that most people who are violent are not mentally ill and most people who are mentally ill are not violent.\textsuperscript{2}

Caring of schizophrenia patient with risk for self directed violence, or risk for violence directed at others, is clinical challenges for nursing student in their first clinical placement. Nursing interventions in this regard can be thought in a continuum range from preventive strategies (self awareness, patient education and assertiveness training), anticipatory strategies (verbal and nonverbal communications). The nurse may need to implement crisis management techniques and containment strategies such as seclusion or restraints. Nursing intervention with anger management toward schizophrenia patient with risk of violence in the ward usually consisted of starting to establish a trusting relationship, help the patient identify anger, assure patient to control behavior with deep breathing exercise, anger energy releasing, teaching verbal expression of assertive behavior, anger control by spiritual guidance, and antipsychotic administration. Nursing staff may place too much emphasis on the control of violence through restraint, medication, and seclusion at the cost of examining means of prevention.\textsuperscript{8} In the implementation of nursing care, firstly nursing student should establish a therapeutic relationship. The barrier of giving nursing care could inhibit the therapeutic process. It would create difficulty to reach the goal of nursing intervention. Therefore, this study was conducted to examine the barriers of nursing students in caring schizophrenia with violence risk through reflective diary.

\textbf{METHODS}

\textit{Study design}

It was a qualitative study using a phenomenological approach. This approach aimed to generate a description of experiences of participants as phenomena.\textsuperscript{9} This paper describes content analysis of nursing student’ narratives about barriers in caring schizophrenia with violence risk. Twenty-two nursing students were interviewed and asked to build their analysis, which included the constraints of being able to express ‘self’ in academic format, and the concern attaching a mark that reduced the authenticity of the submission. In this assignment, attempts were made to address potential writing difficulties.

\textit{Participants}

A total participants of 22 nursing diploma students who underwent first clinical placement in a psychiatric hospital Ghrasia, Yogyakarta were recruited for
that was adapted. First, researcher went through the data and recorded a preliminary general message from students. Then, data were analyzed to identify similarities and differences between the messages, then unitized into phrases or sentences relating to specific topics. A code was assigned to a text chunk of any size that represented a single theme or issue of relevance by using NVivo (QSR International Pty Ltd., Doncaster, VIC, Australia) software. We categorized under specific codes from phrases or sentences formed through the reflective diaries of the students. Similar codes were collapsed into fewer, broader themes, and the final theme list emerged. The final theme list was shared with additional researchers to validate the first coding scheme created. General agreement in the coding process was reached and verbatim extracts were taken from the text to illustrate the content of each final study theme.

RESULTS
A total of 22 nursing students who underwent clinical placement in a psychiatric hospital participated in this study. The students demonstrated four common themes in reflective diaries, which included:

Emotions
The nursing students were experiencing fear and anxious in caring schizophrenia with violence risk during the clinical placement in the reflective diaries. They recalled the incidents that happened throughout the first clinical placement in the intensive psychiatric unit and in the maintenance ward. They shared their feeling in their first relationship with schizophrenic. The students were encouraged to identify their own feeling, strength and weakness in their pre interaction phase. They also described unpleasant emotional responses of varying
or unspecified intensity (e.g., related to fear and other feelings) that created difficulty. The nurses’ narratives as the following:

- “Fear, they will do physical abuse like splitting, hitting and verbal abuse.” (Student C)
- “I’m just afraid with the subject.” (Student I)

Some students were feared about asking the cause of violence history that might encourage violence acts, and did nothing while trying to figure out the impact of their anger. They said:

- “First time, I feel anxious if suddenly patient attack me, then I try to take a deep breath and slowly I start to interact with them.” (Student G)

They also have a stigma about violence risk.

- “I have labeled schizophrenia patient were unpredictable. I become afraid if they become hostile.” (Student D)
- “I just do not like about their act. It’s ridiculous knowing that they more aggressive with their own family. The one who should we love and care.” (Student A)

Some students were able to recognize their weaknesses. They felt afraid about what they thought about patient, they were not able to start using themselves as a therapeutic tool. They got themselves more difficult in establishing trustee relationship and became empathic.

- “His command hallucination is still strong, he always talk too much and sometimes so silent, I am afraid if suddenly he hits me.” (Student V)

Personal experience

In the second week, the nursing students shared their personal experiences through reflective diaries. They were asked to recall the incidents when applying nursing management to patients with violence risk. Nursing student drew on experience or lack of experience in their own family or personal life, and shared personal experiences. Some said that their reaction to violence risk impaired their ability to care of patients with violence risk. They said:

- “I cannot imagine how is the burden of their family when they get irritable and started to hospitalized.” (Student B)
- “A close friend of mine did verbal violence. It’s very upset.” (Student F)
- “In this week I learned and performed anger control assistance for the first time. I have discussion with patient about the cause of their anger and the impact if the anger become destructive.” (Student N)

Some nursing students identified that violence risk could be managed by religion, as the source of patient values, but others described spiritual or other beliefs that led them to remain calm, as their following statement:

- “I had a chance to assist how to control anger with spiritual ways such as sholat.” (Student E)
- “I ever try to teach patient take a deep breath with dzikir istighfar they become irritable, they demonstrate it at that time but not practiced later. It become exhausted for me.” (Student H)

Inadequate communication skills

Students in this study reflected on inadequate communication skills problems during an interactive session with violence risk patients. The students showed a barrier in their communication skills because patients easily get bored and lack of concentration. They emerged the data from the reflective diaries about their difficulties in caring patients with violence risk. Some nurses explained that they had lack of communication, and did not know what to say about a violence risk patient. They said:

- “I don’t know what I have to say when the patient get agitated.” (Student M)
- “Not knowing how to help their frustration, finding a way to reach them.” (Student J)
- “I don’t want to say the wrong thing.” (Student L)

Nursing students also indicated that they had lack of skills and knowledge
about violence risk assessment as their statements as following:

- “I do not know how to ask about violence risk if he is temperament so I remain silent.” (Student K)
- “If the patient blocking, I desperate with this situation, how I can assess about his problem. I do not know what I have to do.” (Student Q)
- “How can I explore if patient not open with me.” (Student S)
- “She is so stubborn, she think what she was doing is right. I try to identify with patient what is the impact of hurting self or assaulting other patients or staff she appears to be hallucinating, conversing as if someone is in the room. At times she says she is receiving instructions from “the power.” (Student U)

Some nursing student expressed conflicts between their roles in violence risk management and advocacy for the patients who wanted to figure out what is going on. They expressed:

- One nursing student said, “I knew I should teach patient about the anger management but he told me many times that he was exhausted by the long of treatments.” (Student O)
- “He is unable to write, speak, or think coherently. He is disoriented to time and place and is confused.” (Student N)
- “When I started to have therapeutic relationship, she speak incoherent.” (Student P)
- “I try to focusing many time to the topic but patient have flight of idea.” (Student R)
- “Every time I evaluate patient whether he understand what we have learned today or no, he is not able to demonstrate it, so I repeat it again, and again. This is exhausted for me.” (Student T)

DISCUSSION

Nursing students play an increasingly active role in their first clinical practice. They would learn how to give nursing care for patient with violence risk, until they are capable to responsible for their patients. In learning process, nursing student should identify the barrier and strategic to solve it. The results demonstrated that the barriers of students from the academic to the clinical setting in caring patient with violence risk through reflective diaries.

One of the main barriers to open and therapeutic communications is the emotional barrier. The results showed that the nursing student’s barrier focused much on their emotions during their first met with the patient. The students shared a various feeling, which ranged from their stigma until the fear and anxious as barrier in performing nursing problem skills. This stigma may led to sinister interpretation. The findings are consistent with observation of the student’s emotional response meeting with unfamiliar or new learning events. The feeling phase gives the respondent a opportunity to explore their thoughts about the incident. However, beliefs about professional roles and responsibilities, emotional vulnerability can restrict participation in caring violence risk patient.

Personal experience makes a distance from patient in therapeutic process. This barrier will break down the trustee relationship. Expectation and prejudices may lead to false assumption by putting patient in the different view. Empathic attitude should be used by nursing student rather than stereotype. A high level of honesty and acceptance when talking to the patient and responding to their concern is needed.

The results of this study showed that the inadequate communication skills were stressed by students in their reflective diaries. Students strived to obtain patient compliance during the treatment process through effective communication skills. When assessing risk, it is important to address the following issues: the patient's insight into his or her illness. Lack of communication skill must be aware as barriers and nursing students should try to reduce their impact by continually
checking understanding and by offering appropriate feedback.

The main weakness of the qualitative study is that not possible to make quantitative predictions. However, the strength of this research is to provide an understanding and description of nursing students’ personal experiences of what barrier in caring schizophrenia with violence risk.

CONCLUSION

In conclusion, knowing nursing student barrier is shown to be important in clinical practice. A major benefit in this study is that the nursing students were being encouraged to develop individual strategy in learning and caring schizophrenia with violence risk. The students successfully identified their barriers while recognizing their individual learning needs through reflective diary. Nursing students’ barriers in caring violence risk should be understood; therefore a strategy to overcome the problem could be considered an integral part of professional practice in nursing education.

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FEMALE SEX WORKERS’ ATTITUDES TOWARD HIV TESTING: A STUDY AMONG INDIRECT SEX WORKERS IN BANTUL, YOGYAKARTA, INDONESIA

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ABSTRACT
Background: HIV prevalence among female sex workers in Indonesia is among the highest in Asia after Papua New Guinea and Malaysia. Indirect sex workers posed a heightened risk of HIV infection compared to direct sex workers because they usually earn less than their direct counterpart and have lower bargaining power in condom use.

Objective: This study aims to examine the factors influencing indirect sex workers’ attitudes toward HIV testing.

Methods: This study employed a quantitative method with a cross-sectional approach involved 67 indirect sex workers from massage parlors and beauty salons in Bantul district. Descriptive analysis of respondents’ attitude, perceive threat and expectation was drawn from Health Belief Model Theory.

Results: The majority of indirect sex workers had positive attitude towards HIV testing. They are aware to the importance of condom in every commercial sex works, but the majority believe themselves were not susceptible to HIV-AIDS due to their preference to healthy-looking clients to serve sex. Personal expenses to visit the health center for HIV testing are less considered compared to public opinion and discrimination. Peers encouraged the workers to get tested. Disseminating HIV/AIDS information to sex workers through media and mobile phone are not successful.

Conclusion: The findings of the study carrying an expectation that when individuals’ attitudes toward HIV testing are positive, the likelihood of getting themselves tested would also be higher. Since the perception is driven by information as stimulus, it is important to provide continuous information to create stimulus which eventually will influence their perception.

Keywords: HIV-testing, indirect sex workers, massage parlors, beauty salon
INTRODUCTION

Since the past two decades, Human Immunodeficiency Virus (HIV) has drew the attention of governments all over the world. The devastating effects of HIV become the burden of the nation, not only for the infected person and their family. In Asia, more than 5 million people living with HIV, and about 180,000 died of AIDS-related causes in 2015. Although new HIV infections declined by 5% between 2010 and 2015, HIV and AIDS remain the priority for many countries.¹ In Indonesia, epidemiological surveillance on AIDS reported an increased in number of new infection, number of people living with AIDS and also death related AIDS. At least 73,000 new infections reported every year and make it totally 690,000 people living with HIV by 2015. Among those, about 35,000 AIDS-related death was reported.²

HIV prevalence among female sex workers in Indonesia is among the highest in Asia after Papua New Guinea and Malaysia.² It is estimated, of 300,000 female sex workers in Indonesia, both direct and indirect sex workers, 7% are HIV-positive. It should be noted that since HIV testing among Female Sex Workers (FSW) was reported low (only at 38%), the actual figure perhaps is much higher than it is found.²

Sex work is defined as the exchange of sex for money. The structure of sex work vary substantially around the world and across different cultures.³ We use the term direct and indirect sex workers to differentiate the nature of the sex works as the effort of generating income. Direct sex worker refers to those who work in brothels and providing sexual services as their main occupation. Whilst indirect sex workers refers to those whose sex works as supplementary income generating activity.⁴ Indirect sex workers posed a heightened risk of HIV infection due to their works. Compared to direct sex workers, indirect sex workers usually earn less than their counterpart. In most cases, this population is also neglected because they are difficult to be detected. The risk of HIV and AIDS transmission is also higher with the low condom use.⁵ In average, only 5.8% of female sex workers consistently used condoms.³

Sex work is also seen as quintessential expression of patriarchal gender relations. With a limited income compared to direct sex workers, indirect sex workers often have low bargaining power against their clients and ended up with unsafe sex practice because of monetary reasons.⁴ Sex workers accepted sexual intercourse without condom because they perceived that their clients feel less pleasure having sex with condom and may come to find other services if they forced them. Female sex workers also belief that boyfriends, native Indonesians and healthy-looking clients cannot spread STD.⁷

This study aims to examine the factors associated to indirect sex workers’ attitudes toward HIV testing. By understanding sex workers’ attitudes toward HIV testing, it is expected their intention to get themselves tested can be estimated. Bantul district was selected as the study site because it is under the supervision of Bantul AIDS Committee. By exploring the nature of indirect sex workers in massage parlors and beauty salons, the findings of the study is aimed to provide evidences to health programmers and policy makers in developing a new method to encourage sex workers for HIV testing. Since mobile voluntary counseling and testing (VCT) has been established in Bantul district, promoting the importance of HIV testing.
to the sex workers becomes the ultimate goals to increase its utilization.

METHODS
This study employed quantitative study with a cross-sectional approach where the variables were observed at the same period. It was conducted at massage parlors under local NGO and beauty salons at Bantul district. Sixty seven (67) respondents who were identified as indirect sex workers were involved in the study. A compensation was provided as a return to respondents’ participation. Ethical approval was obtained from Faculty of Public Health, Diponegoro University, Semarang with reference number 151/EC/FKM/2012.

RESULTS
Respondents of the present study were indirect sex workers who work in massage parlors and beauty salons in Yogyakarta. Of 100 indirect sex workers on the study site, only 67 willing to be interviewed. Most of respondents (76%) aged 14-40 years old and completed primary school. More than half were married or ever married, and mostly have been working as sex workers for more than 6 months. In average, respondents accepted at least 1 client per week, but top star sex workers sometimes may have more than 3 visitors per day. Compared to their income from providing sexual service, respondents received less income from their main occupation. From salon or massage parlors, respondents received approximately IDR. 250,000 or equal to USD. 18 per month; whilst from the sex work, they may earn IDR. 50,000 per client.

Respondents’ attitude towards HIV test
The results shows 94% respondents have positive attitude towards HIV test. As shown in Table 1, the vast majority (98.5%) understand the importance of condom to prevent HIV transmission. All agreed that having sex with multiple partners is considered as risky sexual practice. The majority (95.5%) also believed that those who have risk to HIV should have themselves tested. Improving indirect sex workers’ knowledge on HIV becomes more challenging since some masseuses who understood the association between risky sexual behaviors to HIV transmission undecided the importance of HIV test.

Table 1. Respondents’ attitude towards HIV test (N = 67)

<table>
<thead>
<tr>
<th>No.</th>
<th>Statements</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In my opinion, the indirect sex worker who has multiple sex partners without condom is considered as having risky sexual behavior</td>
<td>66</td>
<td>98,5</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>In my opinion, the indirect sex worker who has risky sexual behavior must have HIV test</td>
<td>64</td>
<td>95,5</td>
<td>3</td>
</tr>
</tbody>
</table>

Perceived threats of HIV/AIDS
As shown in Table 2, most of indirect sex workers who work as beautician and masseuses realized they were at risk to HIV/AIDS infection due to their jobs – providing sex service to multiple sex partners who have high risk to HIV. They also believed that all clients may transmit HIV/AIDS and other sexually transmitted infection. Nevertheless, about a fourth of respondents still believed that they may not be infected by HIV and AIDS from their HIV positive-clients.

The contrast findings somehow alarm the importance of improving indirect
sex workers’ knowledge to HIV. Although most of respondents were aware to the importance of condom in every commercial sex works, concern should be addressed since majority believe themselves were not susceptible to HIV-AIDS because they always select healthy-looking clients as their sexual partners.

Unlike perceived vulnerability that showed an inconsistent result, respondents’ perceived severity of HIV-AIDS depicted more invariable findings. Respondents considered HIV-AIDS as a severe disease and incurable. Their perceived severity was perhaps also driven by their little knowledge of anti-retroviral therapy (ARV). About a third of respondents did not understand that ARV should be taken for a lifetime and it can prevent them from death.

Table 2. Respondents’ perceived threats of HIV/AIDS (N = 67)

<table>
<thead>
<tr>
<th>No.</th>
<th>Statements</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes %</td>
</tr>
<tr>
<td>1</td>
<td>I realize I have higher risk to HIV/AIDS due to multiple sex partners</td>
<td>62 92,5</td>
</tr>
<tr>
<td>2</td>
<td>I have sex with clients who have high risk to HIV then I may have HIV</td>
<td>57 85,1</td>
</tr>
<tr>
<td>3</td>
<td>All clients have possibility to infect sexually transmitted diseases (STD) and HIV/AIDS to me</td>
<td>52 77,6</td>
</tr>
<tr>
<td>4</td>
<td>I may get HIV infection from clients who have HIV</td>
<td>50 74,6</td>
</tr>
<tr>
<td>5</td>
<td>I am not susceptible to HIV infection since I always use condom when having multiple sex partners</td>
<td>62 92,5</td>
</tr>
<tr>
<td>6</td>
<td>I may get HIV infection if I have sex without condom</td>
<td>63 94</td>
</tr>
<tr>
<td>7</td>
<td>I may not have HIV/AIDS cause I always select healthy-looking clients for sex</td>
<td>35 52,2</td>
</tr>
</tbody>
</table>

Respondents’ perceived severity of HIV/AIDS

<table>
<thead>
<tr>
<th>No.</th>
<th>Statements</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I think there is no cure to HIV/AIDS</td>
<td>55 82,1</td>
</tr>
<tr>
<td>2</td>
<td>I think people living with HIV/AIDS should take lifetime ARV</td>
<td>50 74,6</td>
</tr>
<tr>
<td>3</td>
<td>ARV can prevent someone to death due to HIV/AIDS</td>
<td>42 62,7</td>
</tr>
</tbody>
</table>

Perceived costs and benefits of HIV testing

Of 67 respondents, 45 indirect sex workers willing to have themselves tested. It becomes interesting since the workers may not really consider to individual cost related to HIV testing but more to socio-psychological costs they have to bear. More than half respondents were not concerned to the transportation cost, HIV testing fee, and other personal expenses to visit the health center for HIV testing. However, many workers reluctant to get themselves tested due to public opinion and discrimination. The fear of knowing their own HIV status also becomes the barrier of 32.3% respondents for having HIV test.

Respondents’ perceived benefit of HIV testing lied on their expectation of not transmitting their disease to their clients. They also perceived that by knowing their HIV status as a result of HIV testing, they will be able to live longer. In addition, masseuses and beauticians also believed that by having HIV testing and knowing their HIV status will reduce the likelihood of getting opportunistic infections. They also believed, when they are free from HIV it also means prevent their clients from infection. By preventing their clients from HIV, it will also restrain themselves from HIV-reinfection.
Table 3. Respondents’ perceived costs and benefits of HIV testing (N = 67)

<table>
<thead>
<tr>
<th>No.</th>
<th>Statements</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F (%)</td>
</tr>
<tr>
<td>1</td>
<td>Transportation costs</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>39</td>
</tr>
<tr>
<td>2</td>
<td>Productivity lost</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40</td>
</tr>
<tr>
<td>3</td>
<td>High cost for HIV test</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>4</td>
<td>Prejudice from clients if know the respondents do HIV test results with refusing to have sex</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td></td>
<td>19</td>
</tr>
<tr>
<td>5</td>
<td>Discrimination</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13</td>
</tr>
</tbody>
</table>

Respondents’ perceived benefits of HIV testing

<table>
<thead>
<tr>
<th>No.</th>
<th>Statements</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F (%)</td>
</tr>
<tr>
<td>1</td>
<td>I think I don’t have to be afraid to do HIV test since it is curable like other diseases</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>2</td>
<td>I think that with understanding to HIV status I will not transmit it to my clients</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>I think counseling and testing to my HIV status will not change my health condition since I have sex with multiple partners.</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td></td>
<td>19</td>
</tr>
<tr>
<td>4</td>
<td>I think with less severe to my HIV status, I will live longer</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48</td>
</tr>
<tr>
<td>5</td>
<td>I think with no HIV transmission from workers to clients then there is no infection to other clients</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>44</td>
</tr>
<tr>
<td>6</td>
<td>I think when I have less HIV-infected client, my HIV-related opportunistic diseases will not be more severe since I cannot be reinfected by HIV-infected clients.</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>44</td>
</tr>
</tbody>
</table>

Cues to action: Peer supports

Respondents’ willingness for HIV testing was also influenced by their peers’ attitudes and supports. It seems that beauticians and masseuses who involved in the study were having supportive peers. More than 70% acknowledged their peers’ role in providing reminder for counseling and testing. Their peers also encourage the respondents to get themselves tested because their occupation is considered as risky. Respondents perceived that their peers have positive attitudes toward HIV testing. Respondents believed their friends agreed to have HIV counseling and testing for having greater detailed information on HIV and AIDS. By having HIV testing also will prevent them for further infection and severe disease. Respondents of the study also have internal cues to action for HIV testing. More than half (68%) aware that supportive peers only will not guarantee they will have safe sexual practice. This implies, beauticians and masseuses still relied on themselves in making decision for HIV testing.

Access to media

Beside their peers, masseuses and beauticians are also relying to media to find information related to HIV. The finding showed that respondents who have less access to media tends to have negative perception toward HIV testing. Respondents who have better access to source of information such as outreach workers, health personal or health education at the working place tends to have better attitudes to HIV testing. The finding confirms that external sources can be a great influence to individual’s decision to engage in a new behavior. However, the data provided in Table 4 shows the low number of respondents intensively used media for this purpose including internet, digital media (film/CD/VCD), printed media (book, magazine), and mobile phone.
Less than 10% openly admitted they have frequent access to media that provide information related to sexually transmitted infection and HIV-AIDS. Those who accessed media were mostly obtained information related to sexuality from printed media (43%), and their mobile phones (29%). Respondents sought for information related to HIV, AIDS and other STDs through magazines, tabloid and newspapers.

The study found 79.1% respondents have never used Internet to find information related to HIV/AIDS whilst 74.6% never dive HIV testing through Internet. Less than 20% respondents realized the purpose of internet to disclose information related to HIV testing and effects of risky sexual behavior. Similar to the purpose of using internet, it was found that less than of respondents used digital and printed media to learn about sexually transmitted disease, HIV/AIDS, and effects of risky sexual behavior. Nevertheless, the study revealed more than half of respondents were exposed to information related to HIV testing through printed media. Seems electronic media, and also mobile phone are not success to expose indirect sex workers to information related to sexually transmitted diseases and HIV testing. Our study exhibited only 2 of 67 respondents received short message service (SMS) related to HIV testing while only 1 respondent intensively access pictures related to sexually transmitted disease and HIV/AIDS through mobile phone.

Table 4. Roles of media to indirect sex workers’ perception of HIV testing (N=67)

<table>
<thead>
<tr>
<th>Purpose of using media</th>
<th>Responses</th>
<th>Always</th>
<th>Often</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
</tr>
<tr>
<td>Internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexually transmitted diseases</td>
<td>5</td>
<td>7.5</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>3</td>
<td>4.5</td>
<td>11</td>
<td>16.4</td>
</tr>
<tr>
<td>Effects of risky sexual behavior</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>11.9</td>
</tr>
<tr>
<td>Information related to HIV testing</td>
<td>5</td>
<td>7.5</td>
<td>12</td>
<td>17.9</td>
</tr>
<tr>
<td>Digital media (film/CD/VCD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexually transmitted disease</td>
<td>5</td>
<td>7.5</td>
<td>11</td>
<td>16.5</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>3</td>
<td>4.5</td>
<td>12</td>
<td>17.9</td>
</tr>
<tr>
<td>Effects of risky sexual behavior</td>
<td>4</td>
<td>6</td>
<td>14</td>
<td>20.9</td>
</tr>
<tr>
<td>Printed media (book, magazine)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexually transmitted disease</td>
<td>4</td>
<td>6</td>
<td>14</td>
<td>20.9</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>2</td>
<td>3</td>
<td>17</td>
<td>25.4</td>
</tr>
<tr>
<td>Effects of risky sexual behavior</td>
<td>2</td>
<td>3</td>
<td>20</td>
<td>29.8</td>
</tr>
<tr>
<td>Information related to HIV testing</td>
<td>5</td>
<td>7.5</td>
<td>29</td>
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<td></td>
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<tr>
<td>Short message related to HIV testing</td>
<td>2</td>
<td>3</td>
<td>20</td>
<td>29.8</td>
</tr>
<tr>
<td>Access pictures related to sexually transmitted disease and HIV/AIDS</td>
<td>1</td>
<td>1.5</td>
<td>15</td>
<td>22.4</td>
</tr>
</tbody>
</table>

DISCUSSION
As HIV and AIDS prevalence among indirect sex workers tends to increase, attention should be addressed to this particular group because they are engaged in risky sexual practices. Many studies reported, indirect sex workers often had unsafe sex with both their costumers and private partners. Unfortunately, few of them perceived themselves risky to sexually transmitted diseases (STDs) and get themselves tested. The present study found the vast majority of respondents had positive
attitude toward HIV testing. Health Belief Model (HBM) Theory was employed as the main framework to describe respondents’ attitudes toward HIV testing and their perceptions toward HIV and AIDS. The HBM itself was originally developed as a systematic method to explain and predict preventive health behavior. It focused on the relationship of health behaviors, practices and utilization of health services. In later years, the HBM has been revised to include general health motivation for the purpose of distinguishing illness and sick-role behavior from health behavior.10,11

Respondent’s perceived severity is an important factor that influence their perception and practice to HIV testing. Each individual has his/her own perception of the likelihood of experiencing a condition that would adversely affect one’s health.10 When individuals considered HIV-AIDS as a severe diseases and bring a huge consequences to their lives, they are more likely to perform the preventive behavior.11 The vast majority of respondents in the present study considered HIV-AIDS as a severe disease. Masseuses believed that AIDS is incurable and bring devastating effects to their lives and families, including taking ARV for their life time.

Perceived vulnerability to HIV and AIDS will also influence one’s attitude and behavior. When the respondents perceived themselves vulnerable to STDs, HIV and AIDS due to their risky occupation and unsafe sexual practices, they are more likely to have better preventive behavior such as HIV testing.

In general, indirect sex workers in this study considered themselves at risk to HIV and AIDS. The vast majority aware that they are at risk because they have multiple partners. More than 90% masseuses and beauticians also believed that using condom consistently with their casual partners will prevent them from HIV. Nevertheless, unlike perceived threat related to condom, respondents’ awareness related to clients’ risk showed that they have inadequate knowledge related to the risks obtained from their clients. Misconception toward clients’ risk puts the respondents into a higher degree of vulnerability. Although some respondents are aware to the risk to HIV infection because they engaged in sexual intercourse with risky person, nevertheless, about a half perceived that they are less vulnerable because they have carefully selected good-looking clients in every commercial sex works.

According to Rosenstock, Perceived Benefits of Taking Action – testing HIV in this case, is the next step to expect after an individual has accepted the susceptibility of a disease and recognized it seriously. The direction of action that a person chooses will be influenced by the beliefs regarding the action.11 When masseuses and beauticians believed that having themselves tested will prevent them from HIV infection and avert the negative effects, the likelihood of having positive attitude towards HIV testing will be increasing.

Although perceived severity cannot reflect their actual practices, but perception has already involved cognition process where one’s considering the consequences of the disease and cost and benefit of HIV testing.12 Cognitive process itself is influenced by information received by respondents as stimulus. Thus, it is important to provide continuous information to create stimulus which eventually will influence their perception.

Health Belief Model posited human behavior as a result of cognitive process, including perceptions that predict the likelihood of individuals in engaging the intended behavior. Behaviors
(responses) are also influenced by information received from the environment (stimulus) based on individual’s perception on cost and benefit of the behavior. Perceptions also proceeded by stimulus which contained of information then it can be stored and recalled anytime.\textsuperscript{11}

The present study found that respondents who showed a good perception towards HIV testing will be more likely to test themselves. Respondents also considered the importance of HIV testing based on their evaluation on the cost and benefit of HIV testing for their health. Respondents believed by getting themselves tested, it will reduce the likelihood of transmitting the disease to others including their clients. They believed, by preventing their clients, it would also prevent themselves from HIV infection.

Despite its inconsistence results in some aspects, the present study showed interesting findings. Although respondents believe of the benefit of HIV testing is relatively good, about a half respondents perceived the cost of HIV testing could be a burden. Monetary and time costs are valued by the respondents as the barriers of HIV testing. Therefore, the current HIV program such as mobile VCT remains relevant to have the commercial sex workers tested at a very low cost in terms of money and time.

Health Belief Model also acknowledges the influence of peer as external cues to action. The finding from the present study also revealed similar result. Masseuses and beauticians consider their peers as reliable source of information. It is expected, when respondents relied on their supportive peers, the likelihood of having themselves tested is higher than compared when masseuses are surrounded by unsupportive peers. This result also corresponds to Green’s theory on precede model of behavior changes. Peers as reinforcing factors may influence individual’s perception in acquiring the new behavior.\textsuperscript{13}

The finding of the present study confirmed that respondents who were less frequent in accessing any media tend to have lower HIV testing intention. Considering media as a source of information, respondents who have higher frequency of access are more likely to have better knowledge related HIV testing and in turn will have better intention for HIV testing. The results correspond to several media studies reported the more frequent one accessing a media individuals will be directed more to media version of reality than the reality itself. The effect of media therefore is being cultivated in one’s mind and perception and change the perception, attitude and behavior.\textsuperscript{14-16}

When masseuses and beauticians frequently access information related to HIV testing, it will improve their knowledge of the importance of HIV testing and eventually will encourage them to perform the suggested behavior.

It should be noted that masseuses and beauticians also received HIV-related information from outreach workers who visited the massage parlor. Nevertheless, the information given was limited to brief introduction of HIV which unfortunately will be ignored most of the times. Limited access to HIV therefore is not only in terms of accessibility to any media but also the quality of information given to the masseuses and beauticians. Unfortunately, the present study did not collect information related to the quality of media content. The questions posed to respondents were only accessibility to media and how frequent they access it. Therefore, further study should include the analysis of media content rather than frequency of access only.
CONCLUSION

The findings of the study carrying an expectation that when individuals’ attitudes toward HIV testing are positive, the likelihood of getting themselves tested will also be higher. Nevertheless, much should be done in order to ensure this key population has provided adequate information related HIV including HIV testing. Referring to Health Believe Model theory, individual’s decision to perform the new behavior (HIV testing) is driven by the cognitive factor. Cognitive process itself is influenced by information received by respondents as stimulus. Thus, it is important to provide continuous information to create stimulus which eventually will influence their perception.

REFERENCES
14. Widyastari DA, Shaluhiyah Z, Widjanarko B. Adolescents in peril: Internet and other factors influencing adolescents'sexual


ABSTRACT

Background: Emergency nursing service system requires the role of nurses who are able to pay attention to the behavior of caring and patient comfort. Caring in an emergency room is an important aspect in lifesaving procedures. It might impact the psychology of patients if nurses are not caring. Caring behavior and comfort given by nurses can also affect to patient satisfaction. Patient satisfaction is considered important as a bridgehead for the treatment of patients.

Objective: The purpose of this study is to determine the relationship between caring behavior and comfort with patient satisfaction in the emergency room, Ratu Zalecha Hospital, South Kalimantan, Indonesia.

Method: This was an analytic correlational study with cross-sectional approach involved 341 patients in the emergency unit using consecutive sampling. Four questionnaires were used to measure the characteristics of the respondent, the nurse caring behavior, comfort given by the nurses, and patient satisfaction. Data were analyzed using descriptive statistics for respondents’ characteristic, and chi-square to analyze the relationship between variables.

Result: There were 285 respondents (92.8%) who received nurses’ caring behaviors were satisfied, and 268 respondents (87.3%) stated that the nurses were able to provide comfort in nursing care in the emergency room.

Conclusion: This study revealed that there was a relationship between caring behavior, and comfort with patient satisfaction. It tells that caring and comfort are very important components that influence the satisfaction of patients. Therefore, the role of nurse to provide caring and comfort for the patients in the future should be developed along with the development of science and technology and society's demands.

Keyword: caring; comfort; satisfaction; emergency room

INTRODUCTION

A nurse is one of the health professionals who is required to have a professional role in health care system, especially in an Emergency Room (ER). This profession is able to address the needs of patients comprehensively by providing care and patient’s comfort.¹ Caring for
patients in the ER is also an important aspect in life-saving procedures. One part of caring behaviors is a humanistic principle that the management of patients during emergencies should consider the humanistic principles. Nurses and patients usually have verbal and non-verbal communication during activities in emergency. Lack of caring behavior of nurses may impact to the psychological trauma of patients and negligence. In the United States, there are 27.6% of the 30,000 hospitals with negligence in providing care to patients for each year.

Moreover, convenience is one part of the nursing intervention to the patient. If nurses could not do it properly, it can lead to negligence. Nurses should also provide health services for physically and psychologically condition of patient. Nurses stated that they have a desire for every patient to get satisfaction for each intervention that they provided. Caring and comfort can influence to patient satisfaction. Patient satisfaction is important, particularly in ER because of deemed to act as a bridgehead for the treatment of patients. Thus the patient satisfaction needs to be considered. Previous studies mentioned that the highest level of dimension of patients satisfaction was the friendly attitude and politeness of nurses (78%), and the lowest satisfaction levels were the lack of efforts to involve patients in decision making (26.5%), the waiting time in ER when they arrived (26.2%), and hygiene and care needs of the patients (22.2%).

Based on the pilot study, of 70% patients said that behaviors are less satisfied with nurses caring and comfort. Fundamental aspects of caring in the nursing process are still lacking, including the attention to the patient, and the presence of nurses when the patient admits to ER for the first time. Aspects of caring are good enough to have professional knowledge and skills. The good aspect of caring is the respect to the patient. In addition, there are other aspects of comfort that are provided by nurses. Comfort is given by nurses including aspects of relief and ease such as feel calm, feel safe, feel very grateful, and feel cared. Transcendence aspect is still low and some patients feel anxious and unrelaxed. Caring and comfort that are given by nurses could affect to tangibility, reliability, and assurance. Meanwhile, responsiveness and empathy are aspects of patient satisfaction that are still deemed less. Thus, the researchers would like to analyze the relationship between caring and comfort with patient satisfaction in the ER, a hospital in Indonesia.

LITERATURE REVIEW

Caring
Caring is the interpersonal relationship between nurses and clients, which indicates nurses caring through attention, interventions to maintain the client's health and positive energy to the client. The caring human process includes knowledge of human behavior, including the unity of mind, body and soul, one's strengths and weaknesses, response and knowledge about how to provide comfort, have a sense of compassion and empathy. Caring consists of ten carative factors, as a framework to provide a form and focus on the phenomenon of nursing, including humanistic-altruistic system value, faith and hope, sensitive to self and others, helping-trusting, human care relationship, expression negative and positive feeling, creative problem solving caring process, transpersonal teaching learning, support, protection, improvement of physical, mental, social and spiritual (creating a healing environment), human need assistance, existential-phenomenological-spiritual.
Comfort
To make patients and families feel like home is one of the dimensions of comfort given by nurses. Characteristic of comfort theory is more universally viewed. People who admitted to hospital with discomfort should get comfort care from nurses. Comfort enhancement that patient perceived from health workers does not just make them behave to seek health care, but also affect the integrity of the institution (health services) that provide the services. There are three types of comfort, namely relief, ease, and renewal. Relief is defined as a situation where the discomfort is reduced; this theoretical background together with Orlando's theory is philosophy of nursing based on need. Ease is defined as the loss of a specific discomfort; theoretical background enriched by the writings of Henderson on basic human needs. To be in the level of ease, patient or family does not have to have specific experience discomfort. Renewal is defined as a situation where someone rises from the inconvenience when the inconvenience cannot be avoided. At the end of the renewal term is changed to transcendence. Transcendence regard as reinforcing and reminding the nurse not to despair in helping patients and their families to feel comfortable. Interventions in improving the transcendence aimed at improving the environment, improving social support or reassurance. Moreover, interventions to improve transcendence can be more effective if it comes from parents or family, although nurses can provide support or motivation for parents and families.

Patient Satisfaction
Patient satisfaction is the degree between patient expectations regarding the ideal service and perception of the services that they have earned. So the patients can determine the degree of satisfaction of nursing care after they get an ideal. However, if patients get appropriate care there will be no patient dissatisfaction. So that patient satisfaction as the voice of the patient will be considered and responded to by all health professionals. Components of satisfaction include technical quality of care, physical environment, the availability and continuity of service and successfully of the service. Caring and comfort can influence to patient satisfaction. Service Quality (SERVQUAL) is developed by Parasuraman, zelthaml and Berry to measure the quality of health care by using five-dimensional models including tangibles (physical facilities, equipment, the appearance of employees), reliability (reliability with respect to service time and accuracy), responsiveness (willingness to help patients, the impulse to provide services), assurance (manners, trust inspiration, and confidence), and empathy (people development for the welfare or wellbeing of the patients).

METHODS
This study employed a correlational analytic design to investigate the relationship between caring, comfort, and patient satisfaction in the emergency room, Ratu Zalecha hospital, South Kalimantan, Indonesia. There were 341 patients with confidence interval 95% was recruited based on inclusion criteria as the following: partial level of helping to do an activity, fully conscious, able to read and write in Bahasa Indonesia, willing to be the research subject. A consecutive sampling technique was used in this study.

Instrument
The researchers used four questionnaires to collect the data. The first questionnaire was constructed by the researchers to measure the demographic characteristics of the patients, such as gender, age, education background, and
The second questionnaire was to measure the caring of nurses that consists of 42 items of questions. The researchers modified the second questionnaire from literature and had content validity from four experts who had experience in nursing education and hospital, and have expertises in caring. The third questionnaire was a comfort questionnaire adopted from Wright, A. There were 15 items to measure comfort. The fourth questionnaire was to measure patient satisfaction adopted from service quality (SERVQUAL) questionnaire that consists of tangibility, reliability, responsiveness, assurance, and empathy (22 items). Item content validity index (I-CVI) was conducted for the second questionnaire with four experts. Two experts were nurses from the hospital in Thailand and Indonesia, other experts are from nursing education in Thailand and Indonesia. The score of I-CVI was 0.89 (relevance ≥ 0.78). Backward translation from English to Bahasa Indonesia and back translation to English was also conducted. The validity test result was 0.409 – 0.758 (the 2nd questionnaire), 0.346 – 0.751 (the 3rd questionnaire), and 0.276 – 0.694 (the 4th questionnaire). Reliability test for whole questionnaires was tested to 60 respondents at Anshari Saleh Hospital, which had the same characteristic with the study. Cronbach Alpha for caring of nurses’ questionnaire was 0.906, for comfort questionnaire was 0.835, and for patient satisfaction was 0.836. This study used frequency and percentage for characteristic of respondents and chi-square to measure the correlation of variables. SPSS version 13.0 used to analyze the data.

**Ethical consideration**

This research got approval from an IRB of Faculty of Medicine, Universitas Lambung Mangkurat. An informed consent form was signed by each participant before collecting data. The form explained the aim of study in a simple and clear manner to be understood by common people. Participants also were informed about their right to withdraw from the study at any time without giving any reason. Data were considered confidential and not used outside this study without patient’s approval.

![Figure 1. Theoretical framework of caring and comfort with patient satisfaction](image)

CARATIVE FACTORS

Respondent characteristic:
1. Gender
2. Age
3. Education
4. Job

Health seeking behaviors
Nursing intervention
Intervening variable
Internal behaviors
External behaviors

Comfort from nurses:
1. Relief
2. Ease
3. Transcendence

Patient satisfaction:
1. Tangibles
2. Reliability
3. Responsiveness
4. Assurance
5. Empathy

Perception

Physical
Physio-spiritual
Environmental
Social

Caring of nurses:
1. Respect
2. Presence for patient
3. Positive relationship with patient
4. Having professional knowledge and skill
5. Concern to other experience
**RESULTS**

There were 341 respondents recruited based on the inclusion criteria. Characteristics of them were grouped into gender, age, education, and job.

**Table 1. Respondent characteristics (n = 341)**

<table>
<thead>
<tr>
<th>Respondent characteristic</th>
<th>Frequency</th>
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</tr>
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<td>Gender</td>
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</tr>
<tr>
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<td>44.9</td>
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<tr>
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<tr>
<td>High school and university</td>
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<tr>
<td>Job</td>
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<td></td>
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<tr>
<td>Private employee</td>
<td>285</td>
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<tr>
<td>Public employee</td>
<td>56</td>
<td>16.4</td>
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**Table 2. Relationship between caring of nurses and comfort with patient satisfaction (n = 341)**

<table>
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<tr>
<th>No</th>
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<th>Patient satisfaction</th>
<th>Total</th>
<th>OR</th>
<th>P-value</th>
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<tr>
<td></td>
<td></td>
<td>Satisfy</td>
<td>Unsatisfied</td>
<td></td>
<td>(95% C1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>1.</td>
<td>Caring of nurses:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Caring</td>
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<td>62.6</td>
<td>22</td>
<td>4.8</td>
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<tr>
<td></td>
<td>Not caring</td>
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<td>18</td>
<td>3.9</td>
</tr>
<tr>
<td>2.</td>
<td>Comfort provided by</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>nurses:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Comfort</td>
<td>268</td>
<td>61.1</td>
<td>24</td>
<td>5.3</td>
</tr>
<tr>
<td></td>
<td>Discomfort</td>
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<td>8.8</td>
<td>10</td>
<td>2.9</td>
</tr>
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<td>3.</td>
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<td></td>
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<td>142</td>
<td>34.7</td>
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<tr>
<td></td>
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<td>37.3</td>
<td>23</td>
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<td>Age</td>
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<td>Old adult</td>
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<td>19.4</td>
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<td>Education</td>
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<td>266</td>
<td>61.8</td>
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<td></td>
<td>Public employee</td>
<td>41</td>
<td>9.1</td>
<td>15</td>
<td>3.5</td>
</tr>
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</table>
Based on the analysis of the relationship between caring and patient satisfaction in ER (see table 2) shows that 285 respondents (92.8%) received nurse caring behaviors and felt satisfied. Statistical analysis shows that there was a significant relationship between caring and patient satisfaction in ER of Hospital Martapura (p .000). Respondents who received caring from nurses felt 14.572 times satisfied in ER (14.547 OR 95% CI 6.542-32.467) compared with nurses who were not caring. Analysis of the relationship of comfort provided by nurses with patient satisfaction in ER shows that 268 respondents (87.3%) stated that the nurses were able to provide comfort in ER. There was a significant relationship between comfort with patient satisfaction in ER (p .008). Respondents who get comfort were satisfied 2.863 times than nurses who provide less comfort in ER (2.863 OR 95% CI 1.273-6.440).

**DISCUSSION**

The positive influence between caring with patient satisfaction is a model of the most basic system in providing care to patients from nursing assessment to evaluation. These results are supported by previous studies that caring leads directly to the well-being of the patient. Patient satisfaction is one of the most fundamental assessments of an effectiveness and quality of service. It is defined based on the patient's opinion about nursing service provided by staff nurses who work in the hospital. The statistical analysis showed that there was a positive influence between caring and patient's satisfaction, and all of the patients in ER were mostly satisfied.

A good quality of caring will affect the quality of the hospital, including the satisfaction of patients. Studies mentioned that patient who gets caring from nurses will be more satisfied than patients who do not receive caring. Other studies said that the lowest level of patient satisfaction can be achieved in nursing activities. The nurses would give empathy as well as to understand and implement the concept of altruism as basic of nursing care to achieve patient satisfaction.

The results of this study also revealed the relationship between comfort and patient satisfaction, which is in line with the previous research stated that full comfort is not as something that is able to give satisfaction to the patient, but with providing the comfort will able to provide satisfaction for many aspects that affect to patient satisfaction. Nurses are able to provide comfort to the patient and it would make a satisfaction for patients. Patient satisfaction will be achieved if they feel comfort during the treatment process, especially in ER.

**CONCLUSION**

There is a relationship between caring, comfort, and patient satisfaction. This study revealed that caring and comfort are very important components that influence the satisfaction of patients. Thus, the role of caring nurses and nurse's ability to provide comfort for patients in the future should be developed along with the development of science and technology and society's demands. Further research should be conducted to see the cause and effect of caring and comfort toward patient satisfaction.

**REFERENCES**


