# c15.THE STUDY OF KNOWLEDGE ABOUT FIRST AID (P3K) AND BASIC LIFE SUPPORT PRINCIPLES

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# THE STUDY OF KNOWLEDGE ABOUT FIRST AID (P3K) AND BASIC LIFE SUPPORT PRINCIPLES IN YOGYAKARTA COMMUNITY

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## Abstract

**Objectives:** We quite often faced a condition where we are dealing with someone who had an accident or disruption in the physical conditions that are sudden and unexpected. The victim needs first aid should be done as early as possible or even basic life support should be given to reducing and eliminating the risk of injury, disability, or even death. Basic life support is part of first aid (known as P3K). This research aim is to know and predict social phenomena that occur in the community related their knowledge about first aid and basic life support.

**Methods:** This is a survey research conducted by quantitative methods; data collection techniques conducted by *survey method* with the research instrument in the form of a questionnaire which consist of 32 questions. Respondents are 235 members of the public, taken by *area probability sampling method*, with minimal age 17 years old, not the medical personnel. Who are then given a questionnaire to assess knowledge about first aid (P3K) and Basic Life Support principles. Respondents were from five existing city district in the Yogyakarta province (Yogyakarta city, Sleman, Bantul, Gunungkidul, and Kulonprogo), with their diversity in gender, age, occupation, and educational level. Data presented descriptively in the form of percentage.

**Results:** The results showed that the overall average scores obtained by respondents are 74.7 points, thus can be assumed that majority of respondents knowledge about first aid and basic life support quite good. Whereas when grouped by category: 51.49% of respondents included in good category, 44.68% included in the fair category, and the rest is just 3.83% of the respondents have a score that is included in the poor category.

**Conclusions:** In Brief, we present a social fact that majority of Yogyakarta society have well knowledge about first aid and basic life support.

**Keywords:** Knowledge, First aid, Basic life support.

## Introduction

High or low numbers of mortality in a country is an indicator of health care services quality and public knowledge and awareness level to health. Although many health problems associated with chronic and degenerative diseases, we often encounter the occurrence of sudden health disorders of a person, it could be that it appears as a trigger factor, but sometimes occur due to accidents. Accidents can happen anywhere and at any time, in the workplace, the highway, even though inside the house that many people assume as the safetiest place. Statistics show the death victims caused by accidents is still high. Based on World Health Organization (WHO) data, the number of deaths due to accidents on 2014, Indonesia became the country with the highest number of deaths due to accidents in the world. "In fact, based on WHO data, Indonesia reached the fifth most casualties due to accident after China, India, Nigeria and Brazil" (M. Luthfi Andika, 2014).

Oftentimes we encounter a case of death due to mismanagement when providing first aid, first aid for someone who has physical disorders either due to certain diseases or accidents should be dealt with not only fast, but also appropriate. Unfortunately, not many ordinary people have knowledge about how to help people, and even some of them do not consider it is useful and important. So thus, when a person faces a patient with specific illness condition, they do not know what to do? It may just be silent, seek help, or even provide assistance with equipment and relief mechanisms that are not necessarily true. If that happens, then there will be more possibilities that patients will experience more traumatic conditions or even increase the risk of injury and death as the worst.

First aid (P3K) is an attempt to provide first aid to a person who has an accident, injury, or experiencing a disruption to physical health prior to the intensive care of a paramedic or other

competent health worker. Before giving help, it's good to firstly know the specific things related to the victim's self, it is very useful and helpful to determine the next steps of rescue.

Basic life support (BLS) is an action to provide basic life support as soon as possible and aims to restore the respiratory and / or circulatory function of a person with breathing problem or cardiac arrest. As we know that basic requirements for life, the well conditions of circulatory function and good breathing function. If both systems are interrupted, will be able to cause cardiac arrest and stop breathing that can lead to the death of a person.Based on the background that have been mentioned above, the focus of the problem that formulated in this research is: the level of society knowledge, especially in Yogyakarta about first aid (P3K) and basic life support.

The research purpose is to know the society knowledge level about basic first aid and basic life support principles. The results of this study provide benefits, including: Provide an overview of community knowledge related to First Aid and basic life support. And hopefully, it could be one of the basic considerations for the relevant institutions, as the basis for the preparation and implementation of public health training programs in Yogyakarta.

## Methods

Research method is basically a scientific way to get data with a specific purpose and usefulness (Sugiyono, 2011: 2). This research type conducted as quantitative research using survey method. Survey method or completely known as *self-administered survey* is the primary data collection method by providing questions to individual respondents. So it can be concluded that the survey is a method to collect information from groups representing a population. Meanwhile Survey sampling means survey activity using sampling, means that not all units of population are observed one by one and analyzed, nevertheless partially which represented by the sample. The sampling process used is probability sampling method. People who became subjects in the research furtherly called respondents. The respondents of this study are the general population living in Yogyakarta. The research respondents consisted of 235 people from all of the city districts in Special Region of Yogyakarta Province (five districts). The method to collecting research data is by observation. For that purposes, specific instruments are needed, including: Respondents data form and first aid (P3K) and basic life support Questionnaire.

Data collection process performed based on the following stages of implementation: firstly, to determine the research respondents, then respondents were given an explanation of the purpose and the use of research. After that, respondents fill out the data form of identity provided. Lastly, respondents answered the questions in the questionnaire related first aid and basic life support principles. After research data obtained, and then performed processing and analysis of research data. Data obtained from this research are: Respondent identity and respondent characteristics data. Data on knowledge level of first aid principles and basic life support. The analytical technique used to process the data of the research is observational statistical analysis that presented quantitatively (percentage). The results of the scores obtained from the respondents' questionnaire, then analyzed and grouped into three categories, namely:

a. Good, if respondents get score 76% -100% of all questions
b. Fair, if respondent get score 56% -75% of all questions
c. Bad, if respondent get a score 40% -55% of all questions
   (Arikunto, 2010)

## Results

A study aimed to knowing knowledge level of First aid (P3K) Principles and basic life support. The researcher does not impose limits or special criteria except age limits assuming that accidents or unforeseen circumstances causing harm or injury can occur anytime and anywhere. Whereas, the minimum age restriction is intended to determine the ability to provide help, and the responsibilities that are already attached to a certain age limit. The research data was collected by five students as research assistant in the field, who had previously coordinated and given supervision related to the purpose and stages of the implementation process that must be done.

**Respondents Characteristics**

Research respondents are 235 people who live in Yogyakarta special regions province. The research data is taken incidentally by considering the diversity of residence, age, gender, occupation, and recent education in between August – September 2016. Based on sex differentiation, the respondents' wich totaly 235 people are consisted of 116 (49.36%) men and 119 (50.64%) women. The number between is not entirely precise, because when taking the data done randomly.

Distribution of respondents by residence, divide into five groups based on the existing District in the Special Region of Yogyakarta. Although not in the same amount, but expected to make the representation of each district. Distribution of respondents can be seen in the following table:

**Table 1. Respondent place of origin distribution**

| Districts | Kulon Progo | Gunung Kidul | Bantul | Sleman | Kota Yogyakarta |
|---|---|---|---|---|---|
| Number of Respondents | 21 | 15 | 49 | 87 | 62 |
| Persentage | 8.94 | 6.4 | 20.85 | 37 | 26.4 |

Based on the table of respondents' distribution, it is clearly seen that the majority respondents came from Sleman Regency (37%), while Gunung Kidul Regency experience the lowest (6.4%). Thus easily captivated by the pie chart bellow,
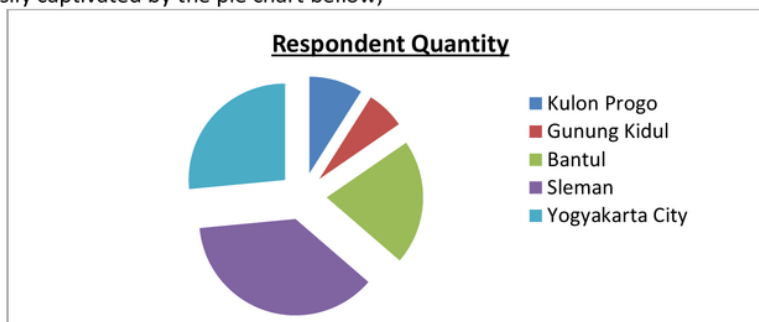


Distribution of respondents by age are grouped by five categories, the following table presents data on the age distribution of the respondents:

**Table 2. Respondent age distribution**

| Age categories | <20 year | 21-30 year | 31-40 year | 41-50 year | >50 year |
|---|---|---|---|---|---|
| Number of Respondent | 72 | 83 | 26 | 35 | 18 |
| Percentage (%) | 30.64 | 35.32 | 11.10 | 14.9 | 7.66 |

It is shows that most respondents come from the age range category 21-30 years (35.32%), the lowest are respondents in the age group >50 years as much as 7.66%.

**Respondents Age Categories**



- < 20 year
- 21 - 30 year
- 31 - 40 year
- 41 - 50 year
- > 50 year
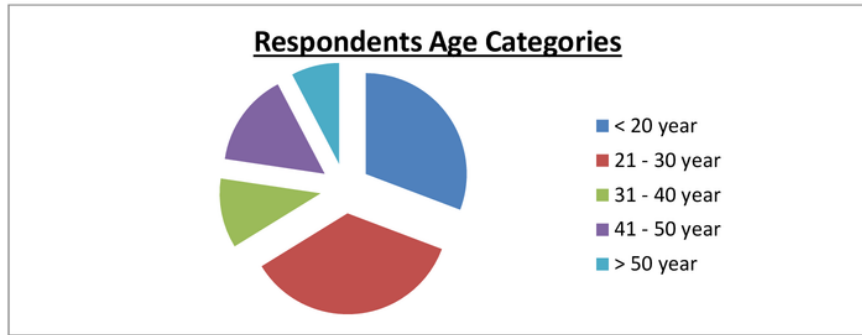
Respondents have different occupation, as illustrated in the table below:

**Table 3. Respondent occupation distribution**

| Occupation | Government employees | Enterpriser | Housewife | Labourer | Student | unemployment |
|---|---|---|---|---|---|---|
| Number of Respondent | 27 | 57 | 22 | 13 | 108 | 8 |
| Percentage | 11.5 | 24.3 | 9.3 | 5.5 | 46 | 3.4 |

The table shows the diversity of respondents' proportion. Based on the data it appears that the highest percentage comes from the students that is equal to 46% (108 person) while only a small part of the respondents who come from the group that is not working/unemployment counted by 3.4% (eight person). As seen in the chart bellow:

**Respondents Occupation**



- Government Employees
- Enterpriser
- Housewife
- Labourer
- Student
- unemployment
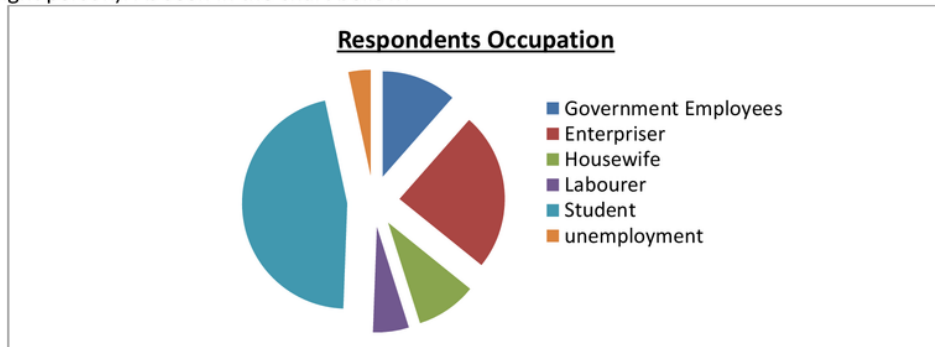
Distribution of respondents based on recent education or the last education is also the researcher's point of view need to be known, because one factor that are very influential on the level of one's knowledge would be greatly influenced by educational level. It is summarized in the following table and pie chart:

**Table 4. Respondent education levels distribution**

| Last Educational level | Elementary school | Junior high school | Senior high school | DIPLOMA | Bachelor | Not specify |
|---|---|---|---|---|---|---|
| Number of Respondent | 4 | 22 | 128 | 11 | 50 | 20 |
| Persentage (%) | 1.71 | 9.4 | 54.5 | 4.68 | 21.3 | 8.41 |

**Respondent Educational Level**

- Elementary school
- Junior High Scool
- Senior High school
- Diploma
- Bachelor
- Not Specify
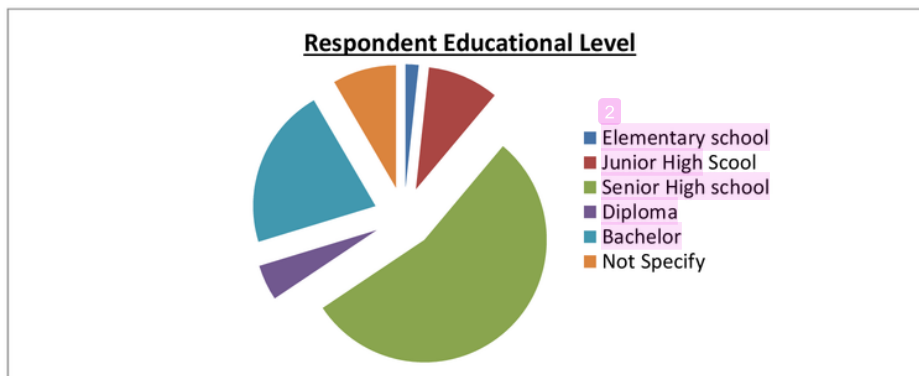
**Level of Knowledge on First Aid and Basic Life Support Principles in Yogyakarta Community**

The data research is discrete data which considered as nominal data, it is because each category has its own character and separated, or having no relation with other category. Based on the questionnaire given to the respondents with the total score 100 (if the answer is 100 percent true), obtained statistical data as follows:

**Table 5. Respondent score**

| Minimum Score | Maximum score | Mean | Median | St.Deviasi |
|---|---|---|---|---|
| 34 | 94 | 74.7 | 78 | 8.92 |

The table provides information about the lowest score obtained from all respondents is 34 points with a highest score is 94 points. The average value of the respondent's answer is 74.7 points, while the middle value is 78. The standard deviation of the questionnaire is 8.92. As clearly seen on the chart bellow:
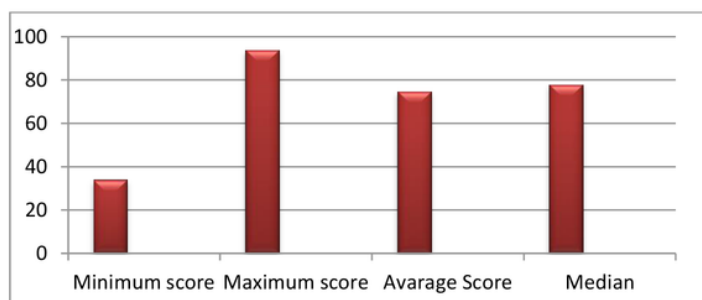


Based on scores obtained from the questionnaires given to the respondents, then grouped by three categories namely poor, fair, and good. The respondents obtained the following results:

**Table 6. Score Categories**

| Categories | Amount | Percentage |
|---|---|---|
| Good category  (76-100) | 121 | 51.49 % |
| Fair category    (56-75) | 105 | 44.68 % |
| Poor Category   (40-55) | 9 | 3.83 % |
| **Jumlah** | 235 | 100 % |

Arikunto (2010)

The table shows that most of the respondents have knowledge that included into good category, and only a few are included in the poor category. To make easier to identify the ratio comparison, it is depicted in the bar chart below.
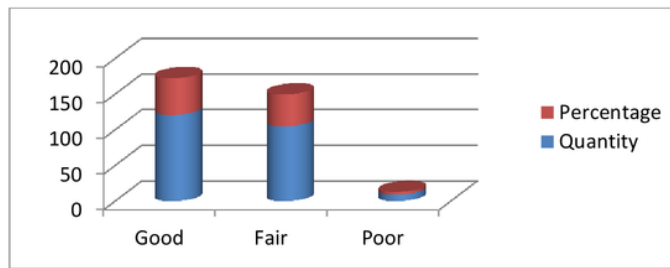
Sometimes sosio-econimic either cultural background and gender differences affect the level of knowledge, attitude, and behavior. Based on the scores of respondents in the study of how knowledge of first aid and basic life support principles in the community shows the difference scores between men and women. However, the difference is not too prominent, which is seen from the difference in the average score is only 1.09 points. Acquisition of statistics based on respondent sex differentiation can be seen in the following tables and diagrams.

**Table 7. Respondent score distribution**

| Gender | Total score | Minimal score | Maximal score | Mean | Median |
|---|---|---|---|---|---|
| Male | 7930 | 34 | 94 | 74.11 | 75 |
| Female | 8723.5 | 50 | 91 | 75.2 | 78 |
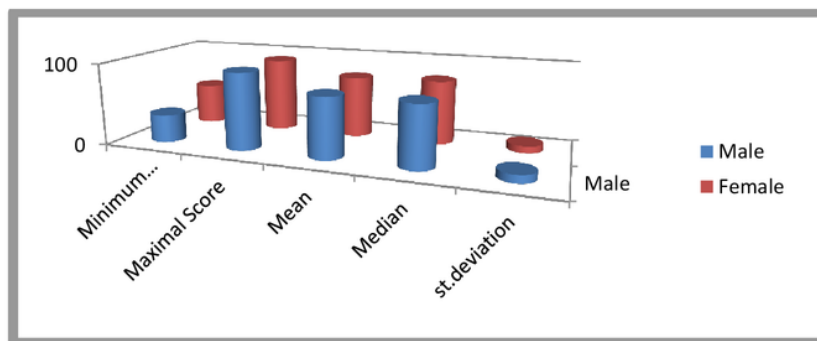


From the diagram, can be seen the most interesting fact is that the male respondent experienced the highest score either the lowest. The maximal score achieved by female respondents is only three points lower compare to male respondent, nevertheless, the smallest score achieved by female respondent is higher sixteen point than male.

**Discussion**

Knowledge and attitude is one's response to Stimulus (Covert behavior), acts (behavior) someone in response to stimuly is an over behavior one's actions (practice) a person is not based on knowledge and attitude. Knowledge is the result that occurs after the senses through seeing, hearing, smelling and feeling. Knowledge or conguitive is a very important dominant for the formation of a person's actions (covert behavior). In another sense, knowledge is the various human phenomena to encounter and acquires through the observation and analysing. Knowledge arises when a person use the senses to recognize a thing that event has never been seen or felt before.

There are two main types of knowledge viewed from the subject of explicitity: (1) Implicit Knowledge, implicit knowledge is knowledge that is still embedded in the form of one's experience and contains non-tangible factors such as personal beliefs, perspectives, and principles. A person's silent knowledge is usually difficult to transfer to others either in writing or orally. The ability to

speaking, designing, or operating a complicated machine or tool that requires knowledge that is not always explicitly visible, nor is it so easy to transmit it explicitly to others. A person with implicit knowledge usually does not realize that actually has it and how it can benefit others. To get it, it takes learning and skill, but not necessarily in written forms. Implicit knowledge often contains habits and cultures that we do not even realize. (2) Explicit Knowledge, Explicit Knowledge is knowledge that has been documented or stored in the form of a media or the like. It has been articulated into formal language and can be relatively easily disseminated widely. Information stored in the encyclopedia (including Wikipedia) is a great example of explicit knowledge. Knowledge can also be provided audio-visual. The work of art and product design can also be viewed as a form of explicit knowledge which is the externalization of human skills, motives and knowledge.

Knowledge and attitude is one's response to stimuli and accepted by the human senses, also defined as a phenomenon encountered and obtained by human sense observation. Knowledge arises when a person uses the sense to recognize a thing or event that has never been seen or felt before. A person's knowledge is influenced by several factors, including: formal and non formal education, information from mass media, socio-cultural and economic, environmental, experience, and age. A person's knowledge of an object also contains two aspects: positive and negative aspects. These two aspects will ultimately determine a person's attitude toward a particular object. The more positive aspects of a known object, the more positive the attitude toward the object will grow.

Information that encountered in everyday life, derived from data and observations of the world around us and transmitted through communication. A person can increase knowledge even if he does not do it, because he observes the habits of others around. The economic status of a person will also determine the availability of a necessary facility for a particular activity, so that this socioeconomic status will affect one's knowledge. The environment affects the process of knowledge entrance into the individuals residing within the environment. This happens because the interaction of reciprocity that will be responded as knowledge by each individual. Age is very influential, increasingly aged will also develop the ability to catch and the mindset, so that knowledge gained better.

A person's level of knowledge will then lead to attitudes and behavior patterns, as expressed by H. Abu Ahmadi (1999: 171) which states that a person's attitude is not only shaped by internal factors, but also strongly influenced by external factors, which are the result of both, communication and social interaction. A person's motivation to have specific knowledge is also driven by need. Knowledge of health and safety is considered important, because one's primary need is to live healthy. Knowledge aims to supports and guided how to behave when there are families members become victims of accidents or health problems suddenly. Because bad things happen beyond prediction so we must not only have knowledge, but also be able to apply practically the skills we have.

Males have a higher risk of mortality from unintentional injury than females at all ages below 20 years, apart from the under 1-year olds in low and middle income countries, and for all injury types except fire-related deaths, also in low and middle income countries (WHO, 2008). It is very different from research data showing that the highest score is obtained by males, who should go hand in hand with the ability to eliminate the occurrence of injuries.

As mentioned by Lotte Newman (2009) there are many types of injuries including: Animal bites, Asthma attack, Bone, joint and muscle injuries, foreign bodies in the eye, Head injuries, Insect stings, and Burns. Those injuries are commonly happened in children as consequences of the abundance physical activity undertaken in an attempt to improve the skills and movement experience. The most commonly reported activities contributing to injuries were play, sport, and transport (Lina Gyllencreutz, Ewa R., and Britt IS, 2013). Narrowly in sport it self, The ICECI (International Classification of External Causes of Injury) define a 'sports injury event' as 'any incident taking place while participating in sports and exercise-related activities and resulting in injury' and define 'sports and exercise' as 'physical activity with a described functional purpose, for example, competition, practicing for competition, improving physical health' (WHO–ICECI, 2004)

Therefore, it is a must for people to mastering basic first aid skills. First aid (P3K) is an attempt to provide first help to a person who has an accident, injury, or is experiencing a disruption to physical health prior to the intensive care of a paramedic or other competent health worker. At the time before giving help it is better to firstly know the specific things related to the victim's self, which is very useful and helps to determine the next steps of rescue.

For instance, as soon as possible after an injury, such as a knee or ankle sprain, the very first to do is to relieve pain and swelling and promote healing and flexibility with RICE- Rest, Ice, Compression, and Elevation. (1) Rest. Rest and protect the injured or sore area. Immobility, or take a break from any activity that may be causing your pain or soreness. (2) Ice. Cold will reduce pain and swelling. Apply an ice or cold pack right away to prevent or minimize swelling. Apply the ice or cold pack for 10 to 20 minutes, 3 or more times a day. After 48 to 72 hours, if swelling is gone, apply heat to the area that hurts. Do not apply ice or heat directly to the skin. Place a towel over the cold or heat pack before applying it to the skin. (3) Compression. Compression, wrapping the injured or sore area with an elastic bandage (such as an Ace wrap), will help decrease swelling. Not to wrap it too tightly, because this can cause more swelling below the affected area. Loosen the bandage if it gets too tight. Signs that the bandage is too tight include numbness, tingling, increased pain, coolness, or swelling in the area below the bandage. Talk to doctor if need to use a wrap for longer than 48 to 72 hours; a more serious problem may be present. (4) Elevation. Elevate the injured or sore area on pillows while applying ice and anytime you are sitting or lying down. Try to keep the area at or above the level of your heart to help minimize swelling (NN, 2013).

Basic life support (BLS) is a handling measure to provide basic life support as soon as possible and aims to restore the respiratory and/or circulatory function of a person with cardiac arrest. Because of the basic requirements for life is the good function of blood circulation and respiratory system. The purpose of First Aid is generaly devided in to two, as the following: (1) Saving lives or preventing death: by doing observation and eliminating the conditions and circumstances that threaten the victim, carry out Cardiopulmonary Resuscitation (CPR) if necessary; Seek and deal with bleeding to prevent more severe disabilities (prevent worsening conditions). Conduct diagnosis to handling the victim with priority. Pay attention to hidden conditions or diseases. (2) Supporting healing process: Reduce pain and fearness. Prevent infection. Devise a medical help and victim transportation appropriately.

The purpose of providing basic life support is to maintain adequate ventilation and circulation until a means can be obtained to alter the cause of the physical disorder (Handley, 1997). In addition, basic life support also aims for effective emergency oxygenation of vital organs such as brain and heart. If both systems are interrupted will be able to cause cardiac arrest and stop breathing that can lead to someone's death. Based on data obtained from this study, it is known that the number of deaths due to accidents or mismanagement is not due to the ignorance of the community about the principles of first aid in accidents and basic life support theories. The assumption is built on the fact that the score of the questionnaire shows the level of community knowledge of it, is mostly in the good category reached by 121 respondents from a total of 235 respondents or 51.49%. Only 3.83% of respondents are included in the poor category (9 people).

The empirical data indicate a relatively controversial fact as based on previous observations and data, showing the number of deaths from accidents in the 6th (1990) and 9th (2013) ranks of the biggest cause of death in Indonesia (Reny. YA, 2014). Although the number is decreased, nevertheless it still is being a scourge in the community. It is important for government and related institutions, and all stakeholders to conduct a study related to these issues. From the discussion, researcher extending suggestions are: For the community in general, to capably utilize the knowledge that is owned practically, and to applied in everyday life. Because sometimes the knowledge is only limited to the level of theory alone, however, less implementations. For the competent academicians and experts, it is expected to continuously provide additional knowledge and train the community in general, and not only stop to the level of "knowing", but should provide guidance or assistance to the community related to implementation in the field. For relevant

instututions as policy makers, in order to well facilitate the needs of the community, including the ease to use public facilities and social facilities, and implement an effective and efficient administrative process.

## Conclusions

Based on the result of the research, it can be concluded that the knowledge of first aid principles on accident (P3K) and basic life support (BLS) in Yogyakarta society generally included in good category.

## Acknowledgment

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