



RESEARCH ARTICLE

TO STUDY THE AWARENESS OF THE GENERAL PUBLIC ON SYSTEMIC LUPUS ERYTHEMATOSUS (SLE)

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ABSTRACT

Aim: To measure the awareness of the general public about Systemic Lupus Erythmatosus, its clinical manifestations, treatment, consequences and co-morbidities.

Objective: To assess the the awareness of the general public about Systemic Lupus Erythmatosus and its clinical manifestations. To assess the treatment, consequences and co-morbidities on Systemic Lupus Erythmatosus.

Background: Systemic Lupus Erythmatosus (SLE) is one of the autoimmune disease which is characterized by the presence of autoantibodies directed against nuclear antigens. It is known as multi-system disease, cause it can lead to multiple organ failure. Thus, it is important to know the onset and have early diagnosis on it, in order to prevent it from becoming more severe. There are various symptoms which SLE can develop, such as fatigue, fever and joint problem. The most common symptoms are joint swelling as well as butterfly rashes, which are commonly experienced by female patients. The prevalence of SLE is varies, but it is estimated to be 1 per 1000 overall with a female to male ratio of 10:1. Management of this disease should include both pharmacological and non-pharmacological modalities for symptomatic relieved and to improved quality of life.

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INTRODUCTION

Systemic Lupus Erythmatosus (SLE) is a multiple system disease, which can affect almost all of the organs inside of the body. It also known as lupus but differ from other as it affect many organs (Maidhof and Hilas, 2012). Systemic Lupus Erythmatosus is an autoimmune disease which is heterogenous, which can caused by the genetic factors or environmental factors (Manson and Rahman, 2006; Kuhn *et al.*, 2015). It can be identified by the presence of autoantibodies that directed against the nuclear antigens (Manson and Rahman, 2006). This will help to characterized the SLE. Patient's with SLE may manifests difference symptoms from each other. However, main symptoms mostly experienced by individual suffering from SLE are rash, arthritis as well as fatigue (Manson and Rahman, 2006; Kuhn *et al.*, 2015). It is believed, if the patients have more than 4 symptoms from the 11 standard criteria, they have high susceptibility to have SLE (Maidhof and Hilas, 2012). The standard criteria is based on the criteria in 1997 of the 1982 American College of Rheumatology (ACR) Revised Classification Criteria for SLE (Lim *et al.*, 2014).

In addition, SLE also can affect any people in the society, not particular to any sex or age. Unfortunately, it is observe that SLE is predominantly prevalence among female compare to male (Maidhof and Hilas, 2012; Omair *et al.*, 2015), especially for those who is on child bearing (pregnant). Therefore, female patients need to have early diagnosis of SLE, in order to prevent further complications as it may affect the fetus during pregnancy. On top of that, despite SLE also can become a threat to one's life, it still can be manage and controlled in order to prevent it become more severe. There are lots options to manage the co-morbidities of SLE. Early diagnosis will help to minimize its onset and severity. Therefore, this study is done to know the awareness of general public on Systemic Lupus Erythmatosus and their basic knowledge about this disease.

MATERIALS AND METHODS

A proper cross-sectional questionnaire was designed in order to study on the awareness of general public on Systemic Lupus Erythmatosus. This questionnaire was drafted and emphasizing to know about the knowledge of society on SLE as well as their awareness on the clinical, manifestations, treatments, consequences and also its co-morbidities. It composed of 15 questions which related to SLE. After the questionnaire was completely drafted, it was uploaded online

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via a website, known as survey planet. This questionnaire was conducted online through this website, and answered randomly by the respondents with various range of age, sex and background. Data is then collected and analyzed with the help of survey planet.

RESULTS AND DISCUSSION

Demographics

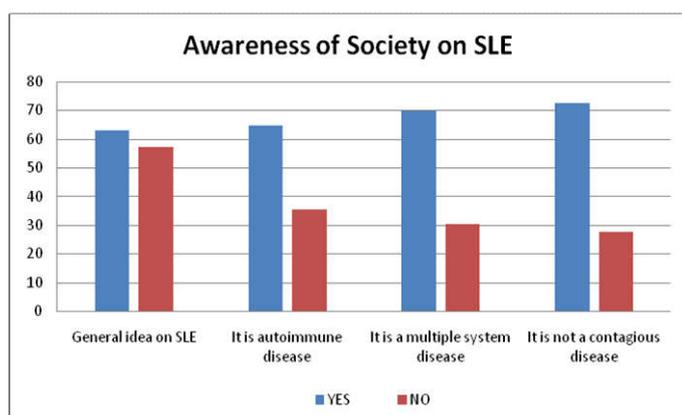
There were about 116 respondents completed the questionnaire online and participated in this study. The result from the questionnaire were included in the final analysis of data and tabulated. As can be seen on Table 1, mean age of the respondents whom voluntarily completed the survey was 29, with variety range of age. 54 (46.6%) from them are male and the remainders are female, with 16 (13.8%) of them being medical students, 6 (5.2%) medicals professionals and 94 (81.0%) belonged to other professions. They were the major participants of this study.

Table 1. Demographic of Respondents

| Variable | Number of Respondents (N) |
|---------------------------------|---------------------------|
| Range of Age | |
| Less than 18 years old | 47 |
| 18 to 25 years old | 51 |
| 25 to 40 years old | 12 |
| More than 40 years old | 6 |
| Mean age | 29 |
| Gender | |
| Male | 54 (46.6%) |
| Female | 62 (53.4%) |
| Profession | |
| Medical professionals | 6 (5.2%) |
| Medical students | 16 (13.8%) |
| Other professionals or students | 94 (81.0%) |

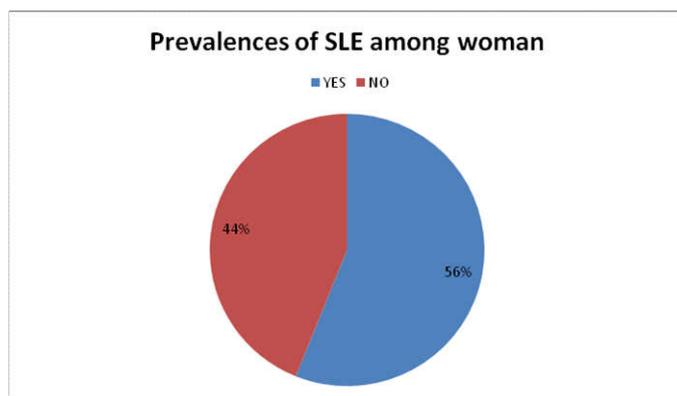
Knowledge on SLE

Based on Graph 1 below, it shows that 62.9% of the respondents knew about SLE and 37.1% from them does not have any idea about the SLE. From this, it is believed that most of the people had an awareness of SLE, as majority of them have a basic knowledge about what it is. However, the result in this study was opposite from survey done among the female students of King Saud University (Robert, 2001). Based on that study, it showed that only minority of the students had previously heard about the SLE. Though majority of them know about SLE, it is important that all students had an awareness of what it is and its prevalence in the society.



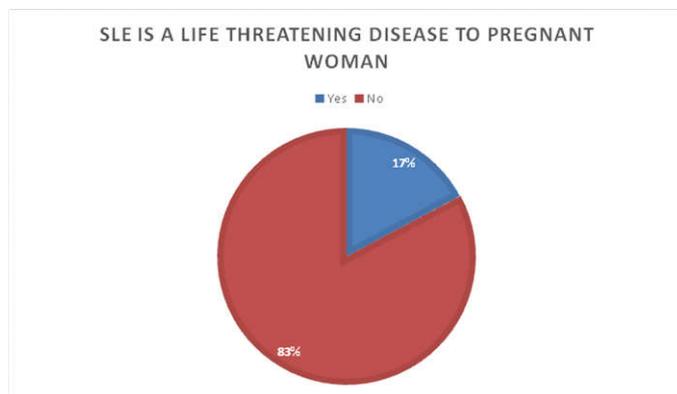
Graph 1. Awareness of Society on SLE

In addition to this, as illustrate in Graph 1, 62.9% of respondents knew that SLE is an autoimmune disease and 35.3% of them did not. This graph also showed that approximately 69.8% of the general society participated in the survey, knew that SLE is a multiple system disease which can affect all of the organ inside the body, which in turn causes defect in body systems. SLE can be characterized by the presence of autoantibodies as it is able to participate in disease pathogenesis (Robert, 2001). The autoantibodies present in turn will lead to abnormal handling of antigens, which result to apoptosis and disturbance function of both T and B lymphocytes (Manson and Rahman, 2006). Therefore, it able to attack our own body substance, as it enable to recognize the substance as the foreign substance that present inside the body. Although it is known as autoimmune disease, 72.4% of the respondents believe it is not a contagious disease as it cannot be spread from one person to another.



Pie chart 1. Prevalence of SLE among Women

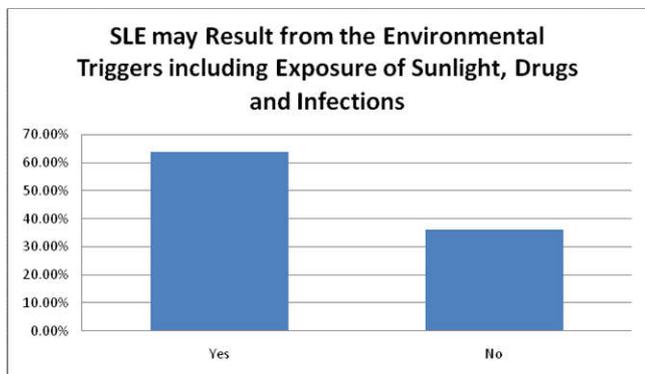
Next, SLE is known as a heterogeneous disease which is predominantly prevalent among woman compared to men. It is also more common and severe among blacks and His panics (Alarcón *et al.*, 1998). This is also proven by an article which reviewed a studied that was conducted in Australia, where the Aborigines have a higher rate of SLE, than the local whites there (Jakes *et al.*, 2012). Through this study, as illustrate in the Pie chart 1, it is observed that 56.1% of the participants agreed to the fact that SLE is common among female compare to male. The ratio of occurrence of the SLE in the world was recorded to be 10:1 of female to male in 2001 (Robert, 2001).



Pie chart 2. SLE is a Life Threaten Disease to Pregnant Woman

As demonstrated in Pie chart 2, it showed that 83% of the respondents knew that SLE is one of the life threatening disease to pregnant women, while 17% from them not know anything about this. SLE becomes a threat to the pregnant

mother because it may result in many complications during pregnancy (Omair *et al.*, 2015), as well as it can lead to loss of the fetus. On top of that, the affected pregnant women also will have higher tendency to have fewer children compared to other normal pregnant woman (Omair *et al.*, 2015). Therefore, it is important for SLE patients to have pregnancy planning or early diagnosis for disease control.



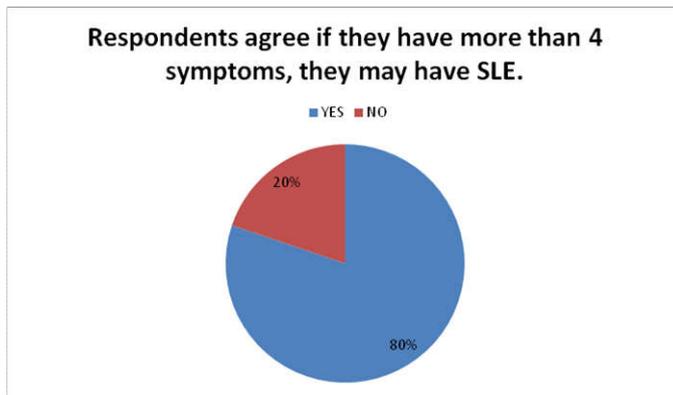
Graph 2. SLE may Result from the Environmental Triggers including Exposure of Sunlight, Drugs and Infections

Next, based on Graph 2, 63.8% of the respondents agree that in the susceptible individual, SLE may result from variety of environmental triggers including through the exposure of sunlight, usage of drugs and infections to body systems. It is a unique disease, which is a complex aetiopathogenesis (Manson and Isenberg, 2003), that can also be caused by the genetic factors.

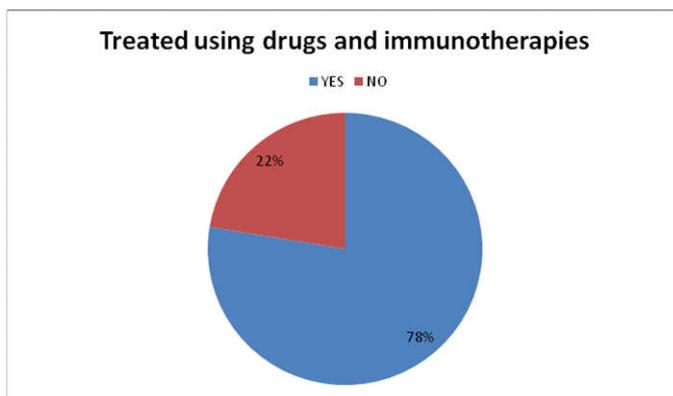
Table 2. Respondents having Symptoms or Disease related to SLE

| Symptoms | Number of respondents |
|---------------------------|-----------------------|
| Arthritis (Joint Problem) | 14 |
| Malar Rash | 7 |
| Photosensitivity (skin) | 11 |
| Kidney disorder | 5 |
| Anaemia | 5 |
| Oral ulcers | 6 |

In this study, 25 out of 116 participants of the survey, encountered a question regarding some of the symptoms related to SLE. The result is displayed in Table 2. Only minority of the participants, experiencing some of the symptoms of SLE, when the survey was conducted. Basically, SLE can be diagnosed by observing their sign and symptoms mainly, followed by the laboratory tests and diagnostic test (Maidhof and Hilas, 2012). The most common symptoms exhibited by the SLE patients are fever, fatigue and weight loss, which mainly affect the skin, musculoskeletal system and pulmonary system (Maidhof and Hilas, 2012; Alarcón, 1998; Elish and Silverberg, 2006). SLE patients in early stage, usually will develop butterfly or malar rashes, which can be seen on their skin, especially on the nose and cheek area. For the photosensitivity patients, they also tend to have red rash on their skin. Other than that, they also may develop arthritis, kidney disorders, anaemia, oral ulcers and etc. In a suspected patient, which diagnosed with more than 4 of the standard 11 criteria of 1982 American College of Rheumatology (ACR) (Lim *et al.*, 2014), it is believed that if the diagnosis is to be about 95% specificity and 85% of sensitivity (Hochberg, 1997), the patient is having SLE. From this study as illustrate in Pie chart 3, 80.2% of the participants acknowledged that they will have SLE if they exhibit more than 4 symptoms out of 11 of the standard criteria.

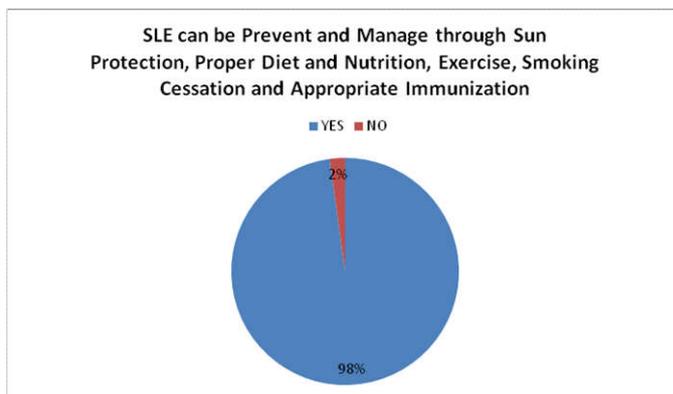


Pie chart 3. Respondents agree if they have More than 4 Symptoms, they may have SLE



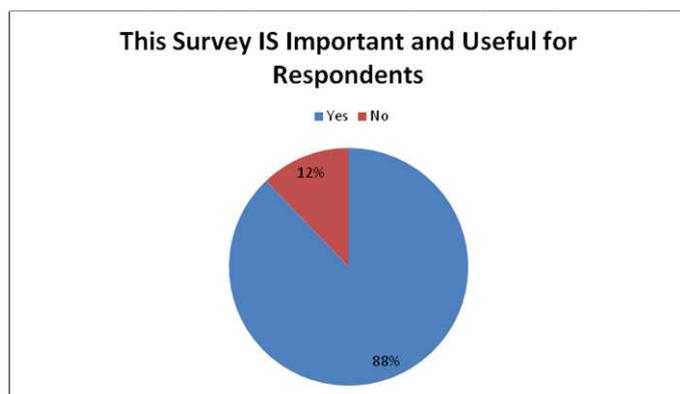
Pie chart 4. SLE can be Treated using Drugs and Immunotherapies

Next, although SLE is a life threatening disease, it still can be managed and treated if it is diagnosed properly. About 77.6% of the respondents agree and believe that SLE can be managed by using drugs and immunotherapies, as shown in Pie chart 4. It primarily can be treated by using immunosuppressants and had been constantly used (Maidhof and Hilas, 2012; Krishnan Vengadaragava Chary, 2016). In fact, arrival of B cell activator inhibitor, Belimumab is believed to give lots of benefits for the affected patients (Krishnan Vengadaragava Chary, 2016). Besides, it also can be treated by using other drugs like non-steroidal anti-inflammatory drugs (NSAIDs), anti-malarial agents, corticosteroids (Maidhof and Hilas, 2012), to control the severity of the disease. Therefore, tolerance and safety of the drugs on patients should be evaluated, before administering the drugs to the patients.



Pie chart 5. SLE can be Prevented and Managed through Sun Protection, Proper Diet and Nutrition, Exercise, Smoking Cessation and Appropriate Immunization

Generally, physician will recommend for all SLE patients to use sun protection, having proper diet and nutrition, exercise, stop smoking and by having appropriate immunization in order to control the onset of disease. Through this recommendation, majority (98%) of the respondents believe that SLE onset can be delayed through this as shown in Pie chart 5.



Pie chart 6. This Survey Important and Useful for Respondents

Base on this survey, 87.9 % of the respondents finds this survey important and useful for them, and only minority of the participants finding it as not important and useful. This survey also help to inspire them to spread the awareness about SLE to other people.

Conclusions

Data from the study show that this survey, is beneficial to the society as it help people to become aware of this disease. Although they may have basic knowledge about it, some of them may not have sufficient knowledge of it, as a rare disease that happens to the society

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