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KNOWLEDGE AMONG GERIATRIC PATIENTS TOWARDS SIDE-EFFECTS OF THEIR PRESCRIBED MEDICATION

Dissertation submitted in partial fulfilment for the Degree of
Bachelor of Health Sciences in Nursing

FADHILAH MOHD BAKRI

School of Health Sciences
Universiti Sains Malaysia
16150 Kubang Kerian, Kelantan
Malaysia

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AKU JANJI

Diperakui bahawa disertasi yang bertajuk : Pengetahuan Pesakit Geriatrik Terhadap Kesan Sampingan Ubatan Yang Dipreskripsi di Hospital Universiti Sains Malaysia merupakan kerja dan penyelidikan yang asli daripada Fadhilah Mohd.Bakri, no. matrik 70973 dari tempoh April 2005 hingga Mac 2006 adalah di bawah penyeliaan kami. Disertasi ini merupakan sebahagian daripada syarat untuk penganugerahan Ijazah Sarjana Muda Sains Kesihatan Kejururawatan. Segala hasil penyelidikan dan data yang diperolehi adalah hak milik Universiti Sains Malaysia.

Tandatangan Penyelia

Puan Rahimah Mohd. Anshari

Pensyarah Pusat Pengajian Sains Kesihatan

Universiti Sains Malaysia

RAHIMAH BT. MOHD ANSHARI
Pensyarah
Pusat Pengajian Sains Kesihatan
Universiti Sains Malaysia
Kampus Kesihatan

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HUSM   Hospital University Science of Malaysia

ACKNOWLEDGEMENT

May Allah S.W.T bless all of you.

MOHD.BAKRI HJ.ABDULLAH

HAMIDAH HARUN

FAEZAH MOHD.BAKRI

FARIDAH MAHANUM MOHD.BAKRI

ABSTRACT

KNOWLEDGE AMONG GERIATRIC PATIENTS TOWARDS SIDE-EFFECTS OF THEIR PRESCRIBED MEDICATION

INTRODUCTION

Geriatric patients or otherwise known as 'warga emas' in Malaysia are among the population group who consume large quantity numbers of medication, due to their chronic conditions in experiencing chronic diseases and illnesses, as the aging process is undeniable to be the cause for existence of these conditions on them. Therefore certain medications are prescribed for them in treating their diseases and also to reduce the signs and symptoms of the disease. However, within longer period of time consuming these medication, the side-effects of the medication are not possible to emerge and cause difficulty to these geriatric patients. It will be harmful later in their late life as the geriatric patients should know well about their prescribed medication to forbid the side-effects of the medication from happening to them.

OBJECTIVE OF RESEARCH

This study is carried out to identify the level of knowledge among the geriatric patients towards the side-effects of their prescribed medication.

METHODOLOGY

This cross-sectional study includes 30 respondents among geriatric patients who attend Unit Farmasi Luar, Hospital University Science of Malaysia (HUSM) with prescribed medications and also obtain the treatment at HUSM for their diseases. The selection of respondents is by the systematic random sampling.

RESULTS

This study found that period of how long the medication is taken influences the level of knowledge of geriatric patients towards the side-effects of their medications, with the value of p is 0.035 ($p < a$). However, there is no association between the overall knowledge of geriatric patients and the actions taken to prevent the side-effects of medication, with the value of p is 0.398 ($p > a$).

CONCLUSION

As a conclusion, the level of knowledge among geriatric patients towards the side-effects of their prescribed medication is identified. Their knowledge is influenced by the period of time they take their medications, however no association is found between the knowledge and the actions taken by them to prevent the side-effects of medication.

ABSTRAK

PENGETAHUAN PESAKIT GERIATRIK TERHADAP KESAN SAMPINGAN UBATAN YANG DIPRESKRIPSI

PENGENALAN

Golongan pesakit geriatrik ataupun lebih dikenali sebagai golongan warga emas di Malaysia merupakan kumpulan populasi yang menggunakan banyak ubatan berdasarkan keadaan kesihatan mereka yang mengalami pelbagai penyakit kronik, berpunca daripada proses penuaan yang merupakan proses semula jadi bagi golongan tersebut. Oleh yang demikian, pelbagai jenis ubatan dalam kuantiti yang banyak telah dipreskripsikan untuk pesakit geriatrik tersebut bagi merawat penyakit yang dialami oleh mereka dan juga untuk mengurangkan tanda dan gejala penyakit tersebut. Dalam tempoh masa yang lama, pengambilan ubatan tersebut boleh membahayakan kesihatan mereka memandangkan setiap ubat mempunyai kesan sampingannya yang tersendiri. Oleh yang demikian adalah tidak mustahil untuk kesan sampingan tersebut dialami oleh mereka yang akhirnya boleh menyebabkan kesulitan kepada mereka jika mereka tidak mengambil tindakan yang sesuai untuk menghalang kesan sampingan tersebut daripada berlaku.

OBJEKTIF KAJIAN

Kajian ini dijalankan bagi mengenal pasti tahap pengetahuan pesakit geriatrik terhadap kesan sampingan ubatan yang dipreskripsikan untuk mereka.

METODOLOGI KAJIAN

Kajian ini merupakan kajian berbentuk keratan lintang dan melibatkan 30 orang responden yang datang ke Unit Farmasi Pesakit Luar, Hospital Universiti Sains Malaysia dengan ubatan yang dipreskripsi, serta mendapat rawatan di HUSM bagi merawat penyakit yang dialami oleh mereka. Pemilihan responden dilakukan secara rawak sistematik.

KEPUTUSAN KAJIAN

Kajian ini mendapati bahawa tempoh pengambilan ubatan mempengaruhi tahap pengetahuan pesakit geriatrik terhadap kesan sampingan ubatan yang dipreskripsi, dengan nilai p sebanyak 0.035 (p < a). Namun demikian, tahap pengetahuan pesakit geriatrik secara keseluruhannya tidak berkaitan dengan tindakan yang diambil oleh mereka untuk mencegah kesan sampingan ubatan tersebut, dengan nilai p sebanyak 0.398 (p > a).

KESIMPULAN

Secara kesimpulannya, tahap pengetahuan pesakit geriatrik dapat dikenal pasti iaitu tahap pengetahuan mereka dipengaruhi oleh tempoh masa pengambilan ubatan yang diperskripsi, tetapi tiada kaitan didapati di antara tahap pengetahuan dengan tindakan yang diambil oleh mereka untuk mencegah kesan sampingan ubatan tersebut.

CHAPTER 1

INTRODUCTION

1.1 PROBLEM STATEMENT

Geriatric patients are known to be the largest population in receiving prescribed medication than other population groups. According to Rochon & Gurwitz (1995), older people take about three times as many prescription medications as younger individuals do, mainly because of their increased prevalence of chronic medical conditions (Rochon & Gurwitz 1995 *cited by* Chrischilles, Foley & Wallace 1992). As this population group receive the most percentage of medication prescription, they need to know about both of the therapeutic and side-effects of their prescribed medication. Side-effects by its definition is defined as an unwanted effect produced by a drug in addition to its desired therapeutic effects. Side-effects are often undesirable and may be harmful (Oxford Concise Colour Medical Dictionary 2002). Apart from that, the word 'side-effects' are often used interchangably with adverse effects and adverse drug events based on the researchers' preference while conducting their researches. The side-effects produced by each medication depend on the medication itself, for example the diuretics such as Furosemide which promotes diuresis has certain side-effects such as hypokalaemia, hypotension and ototoxicity (Gomella & Haist 2002). Moreover, the necessity of knowing about side-effects of prescribed medication is crucial to prevent adverse drug reactions from occuring on

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geriatric patients. Adverse drug reactions happen in addition to untreated health problems related to the side-effects of the medication within long period of time. The most common adverse drug reactions include confusion, delirium, depression, dizziness, fall injuries, fatigue, indigestion, skin rash and urinary frequency or urgency (Curry, Walker, O Hogstel & Burns, 2005). Therefore, in fullfilling the necessity, the knowledge and information regarding medication and any possible side-effects of the used medication should be provided for them sufficiently by health care providers.

The Theory of Geragogy, the art and science of helping older adults learn, addresses the physical, cognitive and sensory deficits of aging (Hayes 2005, *cited by* John 1988). This theory could be used to teach the geriatric patients about their medication due to its suitable ways of learning. The theory also could help the geriatric patients to comprehend about their prescribed medication easily.

There are some useful steps which is appropriate to teach the geriatric patients in enhancing their knowledge towards the side-effects of medication. Based on the Theory of Geragogy which was introduced by John in 1998, the health care providers such as physicians, pharmacists and also the nurses could apply the theory in their teaching by giving sufficient time of learning to the geriatric patients. They should be given enough time as the memory deficits among themselves is apparent when it comes to the acquirement of the new knowledge. The educators also should keep a strong, meaningful or extraneous information about their prescribed medication. A

conducive environment also should be provided to them in delivering the educational intervention, such as a special room with quiet and comfortable atmosphere of learning. Apart from that, the educators also should recognize the geriatric patients' experiences particularly when it comes with the medication management and the way of they self-medicate themselves. Besides, the educators should give continuous and strong motivation to the geriatric patients to take their prescribed medication properly as it will contribute to a high motivation for a good health status among the geriatric patients.

Apart from that, the geriatric patients are able to manage their prescribed medication better if an effective communication between the health care providers and themselves exists. By knowing the facts that each medication has its own side-effects, the geriatric patients are able to notify the changes they experience on their body system and report these changes to their respective health care providers. Therefore, any appropriate actions can be taken as soon as possible to overcome the problems with the medication.

The objectives for carrying out this research are divided into two, that include the general objective and the spesific objectives.

The general objective :

To identify the level of geriatric patients' knowledge regarding side-effects of their prescribed medication.

The spesific objectives :

1. To identify source of information about the prescribed medication obtained by the geriatric patients.

2. To clarify the usual actions taken by the geriatric patients if they experience any side-effects of their prescribed medication.

3. To come up with some possible recommendations suggested by the geriatric patients so that they know better about their prescribed medications in future.

1.2 RESEARCH HYPOTHESES

1.2.1 Period of the medication is taken influences the level of knowledge of geriatric patients towards the side-effects of their medications.

1.2.2 There is association between the overall knowledge of geriatric patients and the actions taken to prevent the side-effects of medication.

1.3 DEFINITION OF TERMS

1.3.1 Knowledge

The awareness and understanding of facts, truths or information gained in

the form of experience or learning (a posteriori), or through deductive reasoning (a

priori). Knowledge is an appreciation of the possession of interconnected details

which, in isolation, are of lesser value (Wikipedia 2005).

1.3.2 Geriatric patients

Geriatric or otherwise known as elderly is defined as persons aged 60

years old and above. This definition is in line with the one made at *World*

Assembly on Ageing in 1982 in Vienna.

1.3.3 Side-effect

An unwanted effect produced by a drug in addition to its desired

therapeutic effects. Side-effects are often undesirable and may be harmful.

(Oxford Concise Colour Medical Dictionary 2002)

Any physiologic effect other than that for which a given drug

is administered.

(Clinical Pharmacology & Nursing Management 1998)

1.3.4 Medication

1. A substance administered by mouth, applied to the body or introduced into the body for the purpose of treatment. Medicated dressings are applied to wounds to prevent infection and allow normal healing.

2. Treatment of a patient using drugs.

(Oxford Concise Colour Medical Dictionary 2002)

The administration of drugs for the purpose of treating illness.

(Clinical Pharmacology & Nursing Management 1998)

1.4 SIGNIFICANCE OF RESEARCH

This research is carried out to obtain a clear reflection regarding the status of the geriatric patients' knowledge towards the side-effects of their prescribed medication, particularly in Hospital Universiti Sains Malaysia (HUSM). Apart from that, by obtaining the findings from this research, the writer is able to utter some suggestions to the respective health care provider in enhancing the knowledge of the geriatric patients about the side-effects of their prescribed medication. On the other hand, the research is done to fulfill the credits of Research Project course (GTJ 312) which consists of 6 credits.

CHAPTER 2

LITERATURE REVIEW

Drug therapy for individuals of any age is difficult but prescribing for older patients offers special challenges. Selecting the right medication and dose for the individual older patient is often difficult because so litte research evidence is available to guide choices (Rochon & Gurwitz 1995). Likelihood of having a prescription medication and number of medications increased with age (Rathore, Mehta & Boyko et al. 1998). Based on the literature review, therefore some possible researches in surveying the similar aspects of gerontological perspectives are required particularly in the medication prescription and the side-effects of these medication to the geriatric patients.

Failing to correctly manage a prescribed medication regime can have severe consequences including longer stays in hospitals, use of more hospital services and increase in the cost of health care (Peterson & Dragon 1998). Instead, if precise actions are taken by the geriatric patients together with their ability in knowing about their prescribed medication, the consequences as stated by the literature review could be prevented as soon as possible.

Adverse drug events involving interactions with foods and other drugs have become an important public health issue. These events have been shown to cause

hospitalizations, significant morbidity, and even death (Leibovitch, Deamer & Sanderson 2004). This issue should be concerned by each geriatric patient who consume medication for the purpose of treating their diseases and the health care providers should educate them so that they become more alert about the issue above.

Based on a research conducted by researchers from Sweden, among 642 subjects aged 81 years old and older, more than onethird had sleep problems. Subjects with sleep problems were more likely to report taking one or more medications than subjects without sleep problems (Giron, Forsell, Bernsten & Thorslund 2002). Sometimes, the problems related to sleep are usually abandoned by the geriatric patients and they think that this problem as a minor problem in their lives. However, by the research done there is an evidence that the sleep problems are actually related to the medication consumed by these geriatric patients. There is also evidence that many older adults receive medications that could potentially cause more harm than good (Williams 2002).

One study revealed that adverse drug events in older patients led to hospitalizations in 25 percent of patients aged 80 years old and older (Lazarou, Pomeranz & Corey 1998). Many older patients with knee osteoarthritis might be willing to accept less effective treatments in exchange for a lower risk of adverse effects (Obesity, Fitness & Wellness Week 2004).

Many adverse events result not from unknown effects of medications but from inappropriate prescribing (Murray & Callahan 2003). Therefore, the health care providers should be careful in prescribing the right medication for the geriatric patients in avoiding the adverse events from happening on them.

The injury resulted from the medication and its adverse drug events are common not only within the society, but also within all care settings. Adverse drug events are a common form of preventable iatrogenic injury among older adults in all care settings (Gurwitz, Field, Harrold, Rothschild, Debellis, Seger et al. 2003).

Delivering written medication instructions is a goal nurses can help fulfill by providing older adults with tools to retain information about why, how and when to use their prescriptions (Hayes 2005). In purpose to reach the optimum effects of the prescribed medication, some appropriate ways of giving the information and also in educating the geriatric patients for example by writing medication instructions are encouraged.

Some studies also suggest that better communication between patients and health care providers predicts better self-management of medication (Peterson & Dragon 1998).

As a conclusion, there is a concern regarding the issue of geriatric patients and their prescribed medication to be studied deep further in future.
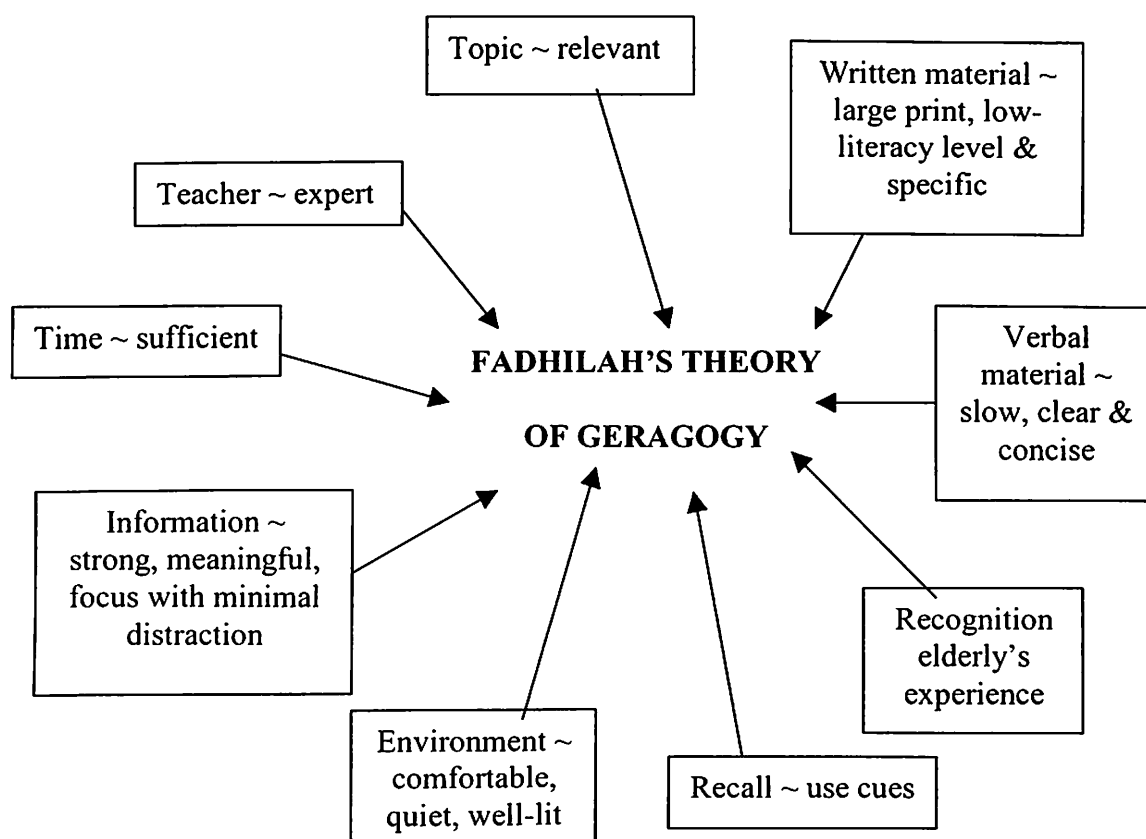
FADHILAH'S THEORY OF GERAGOGY

Figure 1 : Fadhilah's Theory of Geragogy, adapted from Theory of Geragogy

(John 1998)

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CHAPTER 3

RESEARCH METHODOLOGY

3.1 Location of research

This research was carried out in Unit Farmasi Pesakit Luar, Hospital Universiti Sains Malaysia (HUSM), Kubang Kerian, Kelantan.

3.2 Sample

Sample included geriatric patients aged 60 years old and above who received medical treatment in HUSM.

3.3 Sample size

The number of subjects was counted by using formula as below :

$$n : [Z\alpha/\Delta]^2 p(1-p)$$

where,

n = number of sample

$Z\alpha$ = 95% of the Confidence Interval = 1.96

Δ = 0.05

p = prevalence from previous research = 0.25

The result of the sample size was 228 subjects. However, after the process of data collection had been completed, only 30 subjects were able to be studied since only

these subjects fullfilled the inclusion and exclusion criterias, apart from other limitation during the process of data collection such as time constraint.

3.4 Data collection

3.4.1 Tools

i. Semi-structured questionnaire.

(a) Open-ended data

(b) Likert's scale

(c) Categorical data

(d) Dichotomous data

ii. The estimated time for a respondent to answer the questionnaire was about 30 minutes each.

3.4.2   Method of data collection

The method of collecting the sample is by using random sampling which included randomly selected geriatric patients. While inclusion and exclusion criterias for the purpose of data collection were as below :

Inclusion criterias :

1. The subject's age was 60 years old and above.

2. The subject had at least one medication prescription for his or her disease by the health care provider in HUSM.

3. The subject was understand Bahasa Melayu and was able to follow instructions stated within the questionnaire.

4. The subject was not diagnosed of having dementia problems.

5. The subject was oriented to time, place and person.

6. The subject gave his or her consent before answering the questionnaire.

Exclusion criterias :

1. The subject was aged below than 60 years old.

2. The subject did not have any medication prescriptions for his or her disease.

3. The subject was having dementia problems.

4. The subject was not oriented to time, place and person.

3.5 Ethical issues

All information about the subject was considered as confidential. A consent form was given to obtain permission from the subjects before he or she continued to answer the questionnaire. The subject had a right whether to accept or to refuse the writer's request in answering the questionnaire.

3.6 Data analysis

The variables which were divided into independent and dependent variables stated as below :

Hypothesis 1.2.1 : The independent variables for Hypothesis 1.2.1 is period of how long the medication is taken, while the dependent variable is level of knowledge about medication and the side-effects.

Hypothesis 1.2.2 : The independent variable for Hypothesis 1.2.2 is overall

knowledge of geriatric patients, while the dependent variable is

actions taken to prevent the side-effects of medication.

The data was analyzed by using Statistical Package for Social Sciences (SPSS)

version 12.0.

CHAPTER 4

RESULTS

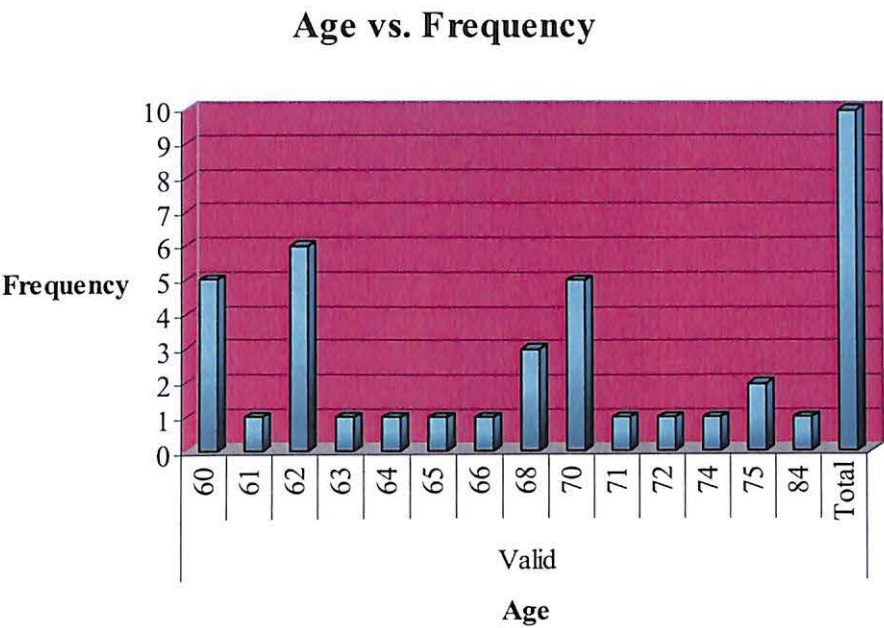4.1.1 Age

Age vs. Frequency

Figure 2 : Age of Respondents

The bar chart above shows the frequency of geriatric patients' age based on the findings obtained by the questionnaire, which is the first question. Five persons among them aged 60 years old and 70 years old, while there are three persons of geriatric patients who aged 68 years old. Geriatric patients who aged 62 years old encompass 6 persons among the total respondents. Therefore this age group is the majority group of the geriatric patients who answered the questionnaire. Two of the total respondents are

aged 75 years old, while each age group which involved geriatric patients aged 61, 63, 64, 65, 66, 71, 72, 74, and 84 years old have only a single frequency.

4.1.2 Gender
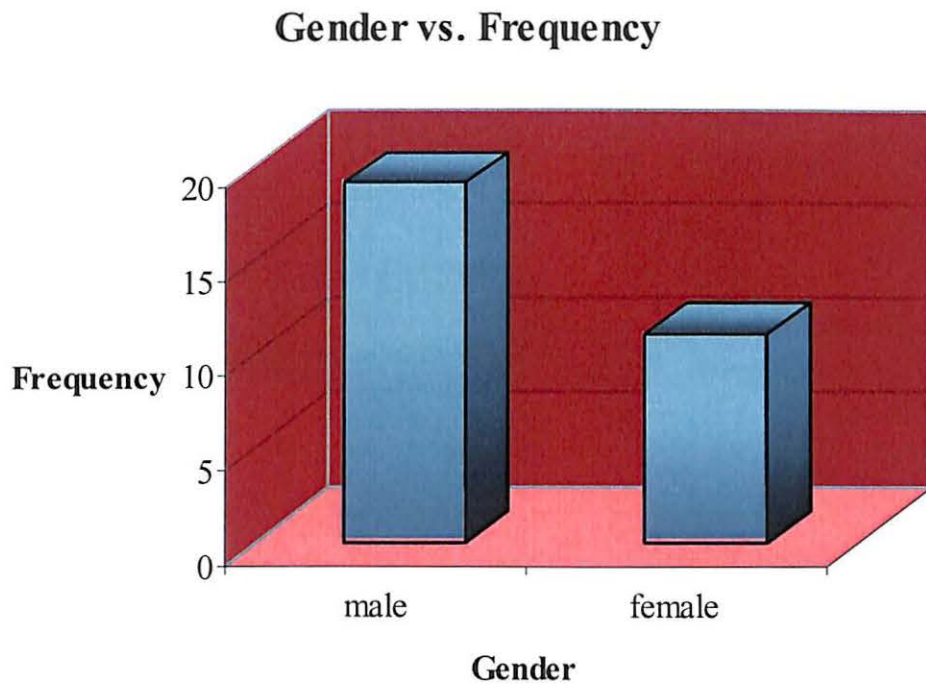
Gender vs. Frequency

Figure 3 : Gender of Respondents

The bar chart shown above is about the gender of the geriatric patients or respondents which involved the second question of the questionnaire. Among the total respondents, 19 persons of the respondents are male respondents while there are 11 female respondents. Male respondents are the majority respondents who answered the questionnaire.
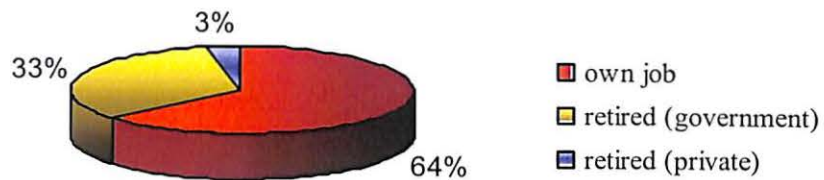
4.1.3 Occupation

Pie Chart of Occupation

Figure 4 : Occupation of Respondents

The pie chart above shows the percentage of respondents by their occupations which is the third question of the questionnaire.Majority of the respondents are doing their own job, with the percentage of 64% from the total percentage of the respondents. While 33% of them are retired from the government sector, and only 3% of the respondents are retired from the private sector.

4.1.4 Marital Status

Marital Status	Frequency	Percentage
Married	30	100%

Table 1 : Marital Status of Respondents

From the table above, all respondents who encompass 30 respondents with 100% of them are married. None of the respondents is single.

B. DISEASE AND DRUG PRESCRIPTION

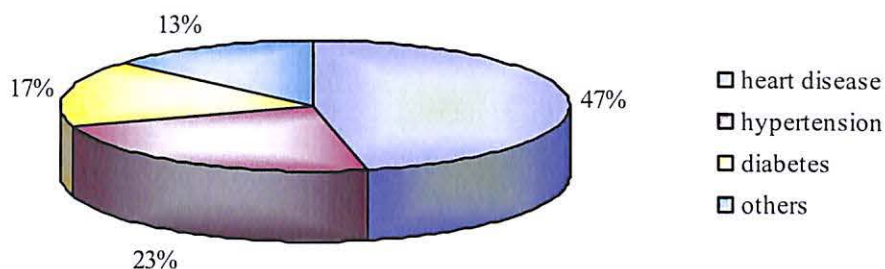4.1.5 Types of Disease

Pie Chart of Types of Disease

Figure 5 : Types of Disease

The pie chart above shows the percentage of types of disease among the geriatric patients based on several classified diseases, such as heart disease, hypertension, diabetes and other diseases. The heart disease encompasses the maximum percentage which is 47%, second is hypertension with the percentage of 23%, diabetes with 17% and the last category which is other diseases encompasses the minimum percentage which is 13%.

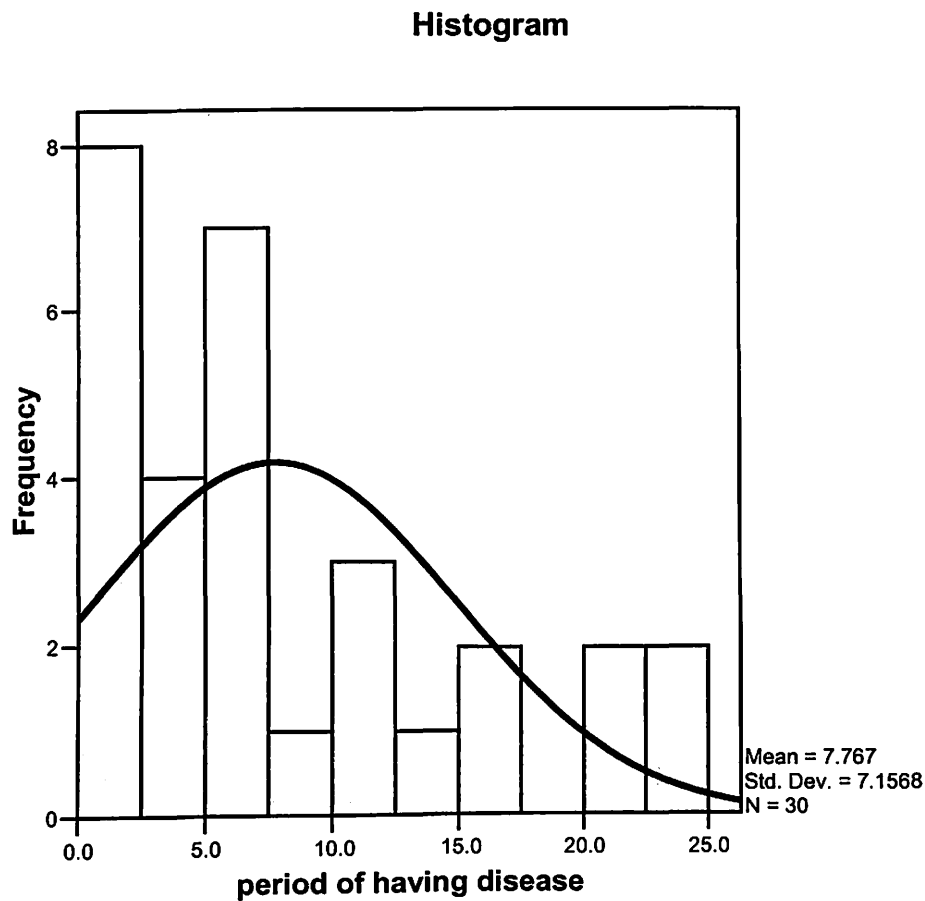4.1.6 Period of Having Disease

Histogram

Figure 6 : Period of Having Disease

The histogram above shows the results of period of having disease by the geriatric patients. The mean period is 7.767 years, while the standard deviation is 7.1568. While the median is 5.000 and most of the geriatric patients experience their diseases for about 5 years as the mode for this variable.
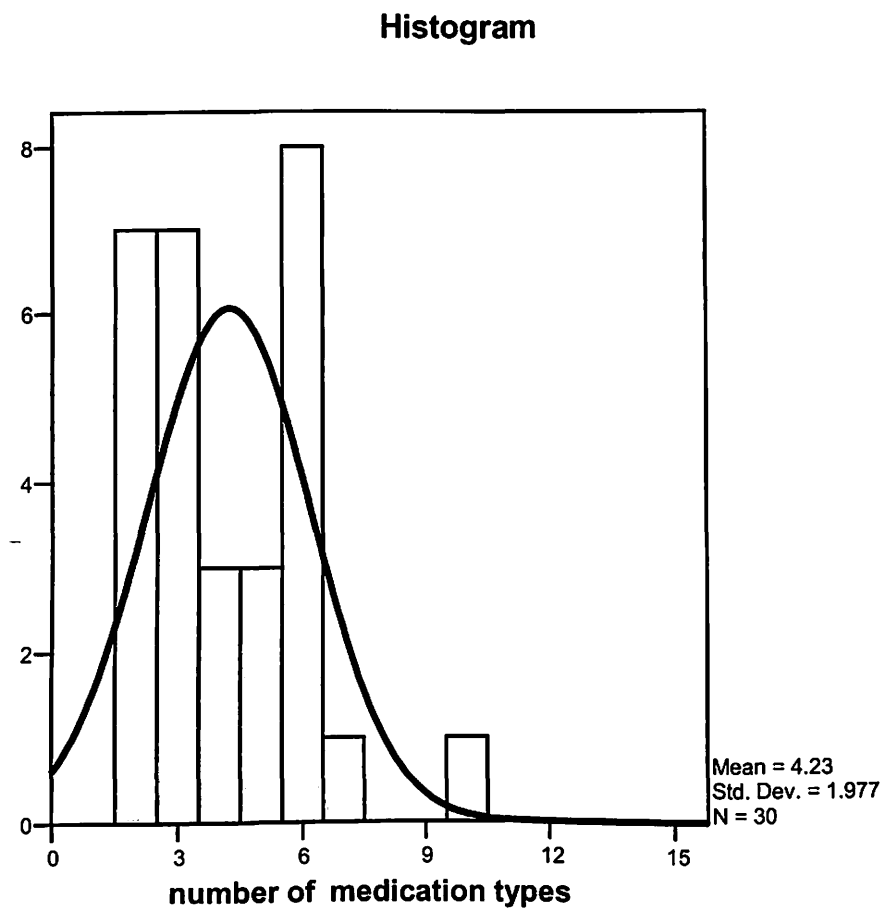
4.1.7 Number of Medication Types

Histogram

Figure 7 : Number of Medication Types

From the histogram shown above, the number of types of medication is analyzed. Based on the histogram, the mean number of types of medication is 4.23, while the median is 4.00. The mode for the variable is six types of medication. The standard deviation of number of types of medication is 1.977.

4.1.8 Period of How Long Medication is Taken
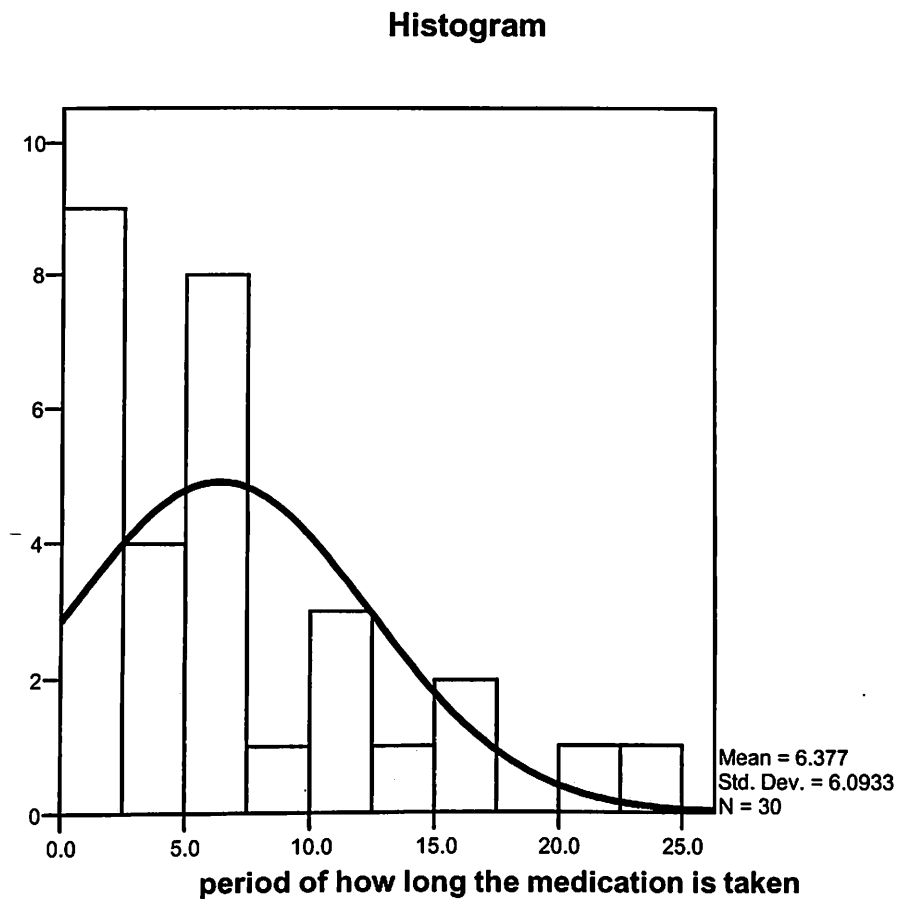
Histogram

Figure 8 : Period of how long The Medication is Taken

The histogram above shows the period of the geriatric patients take their medications. The mean of the period of medication taken is 6.377 years, while the mode is five years of period, and the median is also 5.00. The standard deviation is 6.0933.