MEDICATION GUIDANCE RECEIVED FROM PHARMACISTS

(Perceptions of People Living With Cardiovascular Diseases)

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.. never loose an opportunity of urging a practical beginning, however small,
for it is wonderful how often in such matters the mustard-seed germinates and roots itself..

Florence Nightingale
(British Nurse and Humanitarian. 1820-1910)
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dedicated to my loving husband Sillah
and my dear sons Brence Stephens and Barry Phillip
they understood the meaning of a mother in school
People living with cardiovascular diseases find it complex to manage their medications. This is because they have to deal with many different kinds of medicines and follow strict procedures. Guidance is therefore inevitable. In the past few years, there have been moves to involve community pharmacists to take intensive responsibility in advising clients about medications because they are the most accessible health care providers.

This study has been done under a joint project involving Laurea University of Applied Sciences, Tapiola Pharmacy and Espoon Sydänyhdistys. This project campaigns for people living with cardiovascular diseases to be given proper medication guidance so that they can live safely. Medication errors can be costly when they bring destructive incidences to one’s life. Tapiola pharmacy has been considered herein as the medication center to the informants (N=3) who are members of Espoo Sydänyhdistys.

This study seeks how the informants perceive the medication guidance given to them by pharmacists. Data has been collected through interviews where the informal conversational interview and the general interview guide methods have been used. This data has been analyzed using thematic content analysis to reveal findings that pharmacists should be involved in medication guidance after hospitalization. This is a realistic way to curb unnecessary and dangerous medication errors from occurring. For this reason, a seamless professional relationship between nurses and pharmacists should be implemented to bring success in medication guidance.

Key words: guidance, medication, people living with cardiovascular diseases, pharmacy
Sydän- ja verisuonitaudit sairastavat kokevat haastavaksi hoitaa tilaansa, koska heidän on otettava huomioon monia erilaisia lääkkeitä sekä seurattava tarkkoja toimintatapoja. Neuvonta on täten välttämätöntä. Viime vuosina on esitetty, että kunnallisten farmaseuttien olisi otettava enemmän vastuuta asiakkaiden lääkitysneuvonnasta, koska he ovat asiakkaiden helpoimmin tavoitettavissa olevia ammattilaisia terveyssektorilla.

Tämä tutkimus on tehty yhteistyössä Laurean ammattikorkeakoulun, Tapiola Pharmacyn sekä Espoon Sydänyhdistyksen välillä. Tämän projektin tarkoituksena on auttaa sydän- ja verisuonitaudeista kärsivää potilaita saamaan asianmukaa lääkeneuvontaa, jotta he voivat elää turvallisesti. Lääkevirheet voivat tulla kalliiksi tuodessaan tuhoisia seuraamuksia potilaan elämään. Tapiola pharmacya on käsitelty tässä lääkekeskuksena haastateltaville (N=3), jotka ovat Espoon Sydänyhdistyksen jäseniä.

Tutkimus yrittää selvittää haastateltavien kokemuksia farmaseuteilta saamastaan neuvonnasta. Tieto on kerätty haastattelemalla; käyttämällä epämuodollista keskusteluvaihaa haastattelutapa hoitajille sekä yleisistä haastattelutapaista. Tieto on analysoitu käytävien sisältöanalyysia, jonka loppupäätelmänä on, että farmaseuttien tulisi olla mukana lääkitysneuvonnassa potilaan sairaalassaolon jälkeen. Tämä on realistinen tapa vähentää turhia ja vaarallisia lääkitysvirheitä tapahtumasta. Tästä syystä saumaton ammatillinen suhde hoitajien ja farmaseuttien välille olisi luotava lääkitysneuvonnan onnistumiseksi.

Asiasanat: neuvonta, lääkitys, sydän- ja verisuonitaudit, farmasia
1. Introduction

As heart patients walk out of the hospital environment, some of them for the first time and some having visited the hospital before, they come to a disturbing realization that there are many things to watch out for during medication handling and not only time and dose discipline. Therefore continued patient guidance becomes inevitable.

To realize a smooth transition between leaving the hospital and continued proper medication guidance, the pharmacy might be the right place to dispense this crucial mission. Many people get their medications from the pharmacy; therefore there is need for explicit information to be given at the time of buying so that clients can completely understand their medications. The pharmacy has been considered an accessible and useful source for drug management support and education to many clients (Kostick 2007).

Many people find it difficult to manage their medication routine when the dosage is changed. This requires them to restructure their medication management skills. This process can become complicated if one has to master the new medicines introduced as well as monitor the previous ones. This complex situation can lead to serious medication errors that result to being readmitted to the hospital, failing to manage the disease well or even dying early (Feldman, Totten, Foust, Naik, Costello, McDonald & Kurtzman (2009). It has been noted that lack of proper information may cause confusion and panic especially when one has to deal with the many medicines in one dose and for the first time. Many adverse effects on clients normally occur because of medication errors (Feldman et al 2009).

People who have little information about their medications not only have greater difficulty understanding and managing their medication, but they are likely to make many medication mistakes (Feldman et al 2009). Although research has proved that many medication errors could be prevented if the clients received good guidance when talking about their medications, with doctors (Beisecker, Beisecker (1990), Waitzkin (1984), Pinder (1990), (Silverman 2008), this vital information is somehow lost along the way when patients leave the hospital environment to adjust to new life at home.

Even though some research has been done to find out if there could be other ways of supporting such clients to preserve the same information given to them from the hospital, the achievement has not been encouraging and the said information has been lost or corrupted during this transition period. Getting the pharmacists involved with patient medication care after hospital discharge may be a good path to prevent unnecessary and dangerous medication errors from occurring (Pretto 2004)
This study seeks the descriptions of medication guidance people living with cardiovascular diseases received from the pharmacy. It seeks what the clients know about their medications, if they fully understood the reason for their use, if they are aware of any contraindications to watch out for and if there are any specific directions given to them regarding their medication. It inquires from the clients if they have been informed on how to interpret their physiological reactions to medicines and if they can predict problems of the future today. Their general knowledge and perspective is inquired.

2. Guidance on medication

Guidance is primarily counseling or giving information to individuals to help them develop their whole personality to the extent that they are able to make adequate adjustments to situations in which they find themselves in (Khan 1998). This can be done by helping them find out their potentials and needs, and help them formulate plans of action in order to develop to an extent that they can fully master their situations (Medication Management Guidelines 2007).

According to the American Journal of Health System Pharmacy (Sen & Thomas 2004), directive guidance can be defined to include actions such as giving information and instruction and providing feedback as a mean of support and social development. Directive guidance behavior is the most influential component of social support for increasing medication adherence. Health care givers do achieve positive feedback from all the input they place into medication guidance programs (Sen & Thomas 2000).

Medications are strong mixtures that can help bring diseases under control, give feelings of comfort when diseases exhibit in pain and extend lives of millions of people; their good sides are often camouflaged in the many bad effects. These bad effects are not the major problem but sometimes people take medicines even when they do not need them. When medicines are used in a wrong way, then this becomes a greater problem (Witham 2006). A lot of medication errors usually do not happen by accident but they happen when misunderstandings happen due to ignorance and poor education (Witham 2006).

Even though the consequences of medication mismanagement may be mild, sometimes they can be severe or even fatal. Pharmacists, who are responsible for giving guidance on medications, should follow some principles that can help and guide them so that this is done safely (Witham 2006). In figure 1 below, a research from Collaboration for Home Care Advances in Management and Practice (CHAMP), it can be seen that many people suffering from chronic diseases, (e.g. cardiovascular diseases) do need guidance with their medication.
People living with cardiovascular diseases may find it complex as they try to manage their medications. This might be because they have to deal with an assortment of different kinds of medicines. This process can be very confusing. Cardiovascular diseases can be managed with a wide variety of medications to include; cholesterol-lowering medications, blood pressure medications, bile acid binders, Ace inhibitors, angiotensin receptor blockers, anti-arrhythmias, anticoagulants, antiplatelets, beta-blockers, calcium channel blockers, cholesterol lowering, diuretics, potassium channel activators, vasodilators, etc. This can be overwhelming (Murray, Young, Hoke, Tu, Weiner, Morrow, Stroupe, Wu, Clark, Smith, Gradus-Pizlo, Weinberger & Brater 2007).

It has been found out that patients with heart failure do take several medications. For this reason they often have poor adherence to their treatment schedule (Murray et al 2007). According to one cardiologist at the department of Clinical Cardiovascular Medicine at Cleveland Clinic, patients who do not follow their prescriptions have more risks and could end up worse than they were before. And even though there could be many advantages of taking medications, it can still bring many disadvantages if they this is not done continuously (Rimmerman 2008).

In one American Psychiatric Association journal, it is reported that when people become depressed because of the disease they have, the likelihood of them not taking their antidepressants does reflect on other medications and they are also less likely to take their heart medications (Levin, 2006). From this research, it can be concluded that people suffering from cardiovascular diseases are likely to become depressed and subsequently skip their medicines (see Figure 2).
In another research done at San Francisco Veterans Affairs Medical Center (SFVAMC), it is has been found out that patients with depression are more likely to suffer heart attacks and heart failure and they are more likely to die of heart diseases (Gehi, Haas, Pipkin & Whooley 2005). It becomes inevitable that the people should be given every bit of information they need to help them manage their medications with ease so that the complexity of the medications may not be a source of any form of depression.

Another difficult challenge today is how to help people avoid the common mistakes that may end up costing one’s life. These common mistakes may include ignoring the major symptoms that come with taking different medications or merely postponing the recommended tests or taking for granted the instructions about medications as prescribed by the doctor. Any or all of the above can keep one from getting the full benefit of the present medical research. While trying to prevent medication errors, it is suggested that as the doctors give prescription, the patient should ask the doctor to tell them the name of the drug, the correct dosage and what the drug is to be used for. It is encouraged that the patient should be sure he or she understands the details for any medications including the storage requirements and any special instructions that there may be (Stoppler & Marks 2009).
From figure 3 below, many people still need help with medication management even after being discharged from the hospital.

![Management of Oral Medications in Home Health Care](http://www.champ-program.org/static/CHAMP-Medication%20Management.pdf)

Figure 3: Percentage of people in need of medication guidance after hospitalization

American Hospital Association narrates some recurrent medication problems existing in the world today. These may include inadequate patient information, inaccessible drug details, misunderstanding when ordering and confusing drugs with similar names. These kind of errors are common and disturbing, but they can still be discovered and intercepted if there was another information point; the pharmacy. In some research, it is suggested that the activities involved in pharmaceutical care should include, providing patients with information about how to use their medications properly, guiding them on how to handle uncomfortable effects of medication, encouraging them to take their medications appropriately and giving them feedback on how they are doing. These are among the major steps which could be followed while giving guidance (Sen & Thomas 1999). Today, the world should be concerned with how to clearly describe the level of directive guidance given by pharmacists and how this can be implemented.

### 2.1. Pharmacists’ involvement in medication guidance

According to Webster’s New World Medical Dictionary (1999), pharmacists are trained to be in charge of medicines and give information about them. It is believed that they are familiar with all that ideas that pertain to medication. Pharmacists are health practitioners who specialize in dispensing drugs as prescribed by physicians and providing information to clients about the possible side effects and use. American Pharmacists Association (Sisson & Kuhn 2003) declares that all pharmacists should have first hand information about medicines. They should know the laws that regulate medication manufacture and sale. And as they place orders about
medicines, they should know how to store and keep them safe, pure and effective. They are required by law to maintain current records of all the drugs they handle.

In the Finnish Legislation, the pharmacist follows ethical codes that permit the clients to realize their personal autonomy in whatever decisions they make. Rights of self determination are taken very strictly during medication guidance (Itkonen 2005). As much as clients have a right to access the medical information they need, they still remain at liberty to ask what they want and choose what to do from what they have been told. This is what the pharmacists call the right of the customer or clients’ autonomy (Itkonen 2005).

In looking at the future of pharmacies in Finland (Vainio 2004), a discussion had been going on to find out how the role of community pharmacies could be moved on from procedures associated with medication sale only to services that can generate guidance and counseling. This research brought up considerable facts that can predict the future of pharmacists. That they will be expected to identify, resolve and prevent medication related problems, including adverse drug effects, document the care they deliver, communicate information to primary care givers and provide patient education (Maddux, Dong, Miller, Nelson, Raebel, Raehl & Smith 2002). They will also be expected to coordinate with other health related professionals in pursuit of the same (Stubbings 2007).

Pharmacists being one of the most accessible health care providers, have an opportunity to assist clients when making decisions about their medication. With the increase of the aging population and general advancement of diseases (see Figure 11, page 15), there will be even more opportunities for pharmacists to assist older adults with making appropriate medication choices. To do this successfully, it is essential for pharmacists to be able to evaluate and assess patient symptoms. In fact, very effective methods for determining the needs of patients should be adapted to quicken this process as a whole.

In trying to find out the pharmacists’ role in guiding therapy for heart failure patients, it has been found out that pharmacists are considered to be an accessible and a useful source for drug management support and education (Kostick 2007). Community pharmacists are well positioned to ensure adherence to long-term therapy and provide evidence-based drug information for heart failure patients.

On another citing, while establishing an On-Site Pharmacy in a community health center to help some needy patients access medications and to improve care, it was found out that whereas opportunities for pharmacists in community health centers are increasing, the literature describing pharmaceutical practices and experiences in that community health centers setting was sparse (Dent, Stratton & Cochran 2002). Again while trying to find out the
pharmacist's contribution in a heart function clinic, it was cited that even though the management of congestive heart failure requires a multidisciplinary approach, the role of the pharmacist was not extensively used. This form of education and goal setting could have produced evident results (McDonough & Bennett 2006).

Over the past years, there have been moves to involve the community pharmacists to take responsibility and get more involved in the management of the clients' medication. According to one joint project of University of Aberdeen, Nottingham, Keele and the College of Pharmacy final report (Tinelli 2007), it was concluded that if community pharmacists could contribute their good services and help save many people suffering from coronary heart diseases, this would help reduce medication costs and address a national priority. This study showed that patients were generally satisfied with the services they received from the pharmacy and their frequency to the pharmacy multiplied. They also confessed that they got more detailed education about the side effects of their medications. By statistics, they got better understanding on how to manage their medicines.

In addition, it was reported that those patients were more likely to ask their pharmacist about their medicines and even recommend their friends to do so. In this same study, it was also discovered that the patients valued the reassurance given to them by the pharmacists. They in fact appreciated when genuine interest was taken in them by the pharmacist. Some of them were excited when they sat down to discuss issues about their health with the pharmacists. It was noticed that the clients were eagerly waiting for an opportunity to discuss and to receive advice on their medication whenever they buy it from pharmacists (Maddux et. al. 2000). It is suggested that the most important thing when buying medication is when the pharmacists can have the time to answer all questions asked by the clients and further take their concerns seriously (Maddux et. al. 2000). In conclusion, it is approved that the optimal role for the pharmacist is to be involved in collaboration with other health care specialists while doing this (Wick & Zanni 2001).

A survey exercise was carried out by the Association of Finnish Pharmacists (Kostiainen, Sandler & Tiainen 2009). ‘Mystery shoppers’ walked into unsuspecting pharmacies and asked for professional guidance about medications. This survey was made to study the level of drug information in being given in pharmacies all over the Finland. Another survey sought the role of the pharmacies in erasing some existing confusions about medication and implementing medication safety. It was found out that the pharmacists met the expectations of the ‘mystery shoppers’ by providing accurate, reliable and sufficient information that would have absolutely satisfied their customers.
In 2007, a general survey from the Association of Finnish Pharmacists also showed that Finnish customers were happily contented with the services they received from their community pharmacies. In fact, one informant concluded that, “Nowadays, customers are more likely to get advice about medicine from pharmacies than from a doctor”. Vainio (2004) concludes that whereas in the olden days, many people looked on to doctors for full information about their medicines, today, the pharmacists have become the modern providers of medication guidance.

2.2. Clients’ perceptions of pharmacists

Today, many people expect pharmacists to make it possible for them to ask questions. They hope that the pharmacists will offer medication guidance as they sell and more so that they will communicate effectively and freely with them. Many people look forward to being given undivided attention during any conversation at the pharmacy. In fact, they desire that genuine interest be expressed in their current status of health (Wick & Zanni 2001). Most people can easily sense when pharmacists are in a hurry or if they become distracted by other issues. In such circumstances, they lose confidence and thus their commitment to the whole ordeal of guidance might fail. Similarly, many people begin to doubt and get confused when information is inconsistent with what they have heard elsewhere.

As it is generally believed that pharmacists are legally and ethically obligated to counsel patients. Hastening the patient to tell what they want or making quick conclusions because ‘there is no time’ or because ‘there is too much work’ only dilutes the profession of pharmacy. This is a negative contributor to the medical world. The prudent pharmacists will always refine his or her communication skills and keep accurate data of what has happened. This can help in future evaluation of the client’s understanding. In this way, pharmacists’ concerted efforts will raise the standard of care to another level. Figure 4 below is a Swedish model on how pharmacists define the services they opt to give to their community.

| Table 2. Service definitions relevant for community pharmacy practice |
|---------------------------------|---------------------------------------------------------------|
| Name                            | Proposed definition                                           |
| Cognitive pharmacist services    | Any services that include the direct interaction between patient and pharmacist, making use of the pharmacist’s knowledge. |
| Community pharmacy services     | Any services delivered at community pharmacies.               |
| Expanded pharmacy services      | Any services delivered by a pharmacy beyond the manufacturing, packaging or dispensing of drugs. |
| Pharmaceutical care services    | Any activities at the pharmacies that are performed because of a conscious choice to implement the philosophy of pharmaceutical care. |
| Definitions by the author.      |                                                                |

Figure 4: Pharmacists definitions of services to the community (Renberg 2009) (http://uu.diva-portal.org/smash/record.jsf?pid=diva2:236069)
It is obvious that different people need different levels of information. This is because whereas some people are able to handle detailed and complex information, others may be overwhelmed by anything more than the just the basics. In one article by American Pharmacists Association, (Townsend 2001) interesting suggestions came up when some authors were discussing: One author said, "Whenever you ask a patient what they want to know about their medications, they say everything, but that's not exactly right. What they really want to know is what their choices are." This author went on to say that patients also want to know how to manage probable and possible problems that might come along with the medicine they have bought. Pharmacists must therefore strike a proper balance as each person is unique.

What most clients want to know from pharmacists is the effect of medications on the way they sleep and on their activities of daily living (Townsend 2001). Perhaps people might want to know whether a given medicine will make them feel dizzy, interfere with their appetite, make them to loose or gain weight, change their libido or make them have feelings of anxiety (Lloyd & Berger 2006). Pharmacists can use standard counseling session to determine what the clients really want to know. Then the two of them can then work with other members of the health care team to implement a specific medication care plan. However in all these good procedures, the pharmacists are still expected to respect the patient's absolute right to choose, even if the choice is to forgo that particular medication care plan (Itkoinen 2005).

If the pharmacists may want to know other medications the clients might be taking, ethical issues of rights of autonomy and informed consent may become difficult when obstacles prevent good communication between the health care providers and the people. This can cause the pharmacists only to perform their ethical duties by not insisting on certain practices to be implemented. By this, they cannot reach the full mark required of them as far as mediation guidance is concerned (Itkonen 2005).

Also, many people do protect their medical history for good reasons. Fears of being discovered and the reactions which could arise from such discoveries are often terrifying. Thoughts of whatsoever consequences, repercussions and imaginations that issues of discrimination and or prejudice are possible can promote absolute secrecy. This can cause the receiving person to conceal the vital information needed by the pharmacists. For example, people who have mental illness or sexual disorders can be extremely scared of talking out to pharmacists (Lloyd & Berger 2006). But even in such circumstances, the pharmacists must always approach counseling with compassion and discretion, especially when inquiring about other medications the person might be taking.
3. The Cardiovascular System

The Cardiovascular System is made up of the heart and the circulatory system. The heart is a hollow muscular organ located in the thorax. It where it occupies the mediastinal space and rests on the diaphragm. The heart pumps blood to the organs, tissues and cells of the body. This blood delivers oxygen and nutrients to every single cell and removes carbon dioxide and waste products of metabolism. Blood is carried from the heart to the rest of the body through a complex network of arteries, arterioles and capillaries and is returned to the heart through venules and veins (see Figure 6). The process of blood flow within the body is called circulation (Tortora & Derrickson 2006, Smeltzer, Bare, Hinkle & Cheever 2008).

During circulation, arteries carry oxygenated blood away from the heart but veins carry deoxygenated blood back to the heart (see Figure 5). The major arteries pass through tissues, and branch into smaller vessels called arterioles. These arterioles further branch into capillaries and deliver oxygen and nutrients to the body cells. Once the capillaries deliver oxygen and nutrients, they pick up carbon dioxide and other waste back through wider vessels called venules. Venules eventually join to form veins which deliver the blood back to the heart for oxygenation. The main role of the cardiovascular system is to transport oxygen to all tissues in the body and remove from tissues metabolic waste products (Tortora & Derrickson 2006).

![Figure 5: Circulatory System](http://www.phschool.com/science/biology_place/biocoach/images/cardio2/BPgraphP.jpg)
Figure 6: The cardiovascular system showing heart and major blood vessels
(http://www.ama-ssn.org/ama1/pub/upload/images/446/circulationgeneral.gif)
3.1. Cardiovascular diseases

Cardiovascular diseases are diseases which involve the heart and or blood vessels (arteries and veins). According to the International Statistical Classification of Diseases and Related Health Problems (ICDC-9 390-459), diseases of veins and lymphatic and other diseases of circulatory systems include; acute myocardial infarction, ischemic heart disease, valvular heart disease, peripheral vascular disease, arrhythmias, high blood pressure and stroke. Cardiovascular diseases encompass a number of conditions that result from atherosclerosis, the major cause of cardiovascular diseases in the world today (Heron, Hoyert, Murphy, Xu, Kochanek & Tejada-Vera 2009),

Atherosclerosis is a disease in which fats are deposited in the arterial walls. This results in narrowing and eventually impairing the system of blood flow (see Figure 7). It is a process that develops over many years and may not be detected until it a heart disease strikes. Normally by the time atherosclerosis is discovered, the progress might have gone on for many years and the destruction within the blood vessel, severe. When blood cannot flow easily in the arteries of the heart, its muscle suffers extreme pain which can radiate to the whole chest area.

Figure 7: Atherosclerosis
(http://www.healthline.com/channel/atherosclerosis_images?id=18019)
The development of atherosclerosis normally occurs when deposits of cholesterol and plaque accumulate in a tear within the inner lining of an artery. Figure 8 below shows how this process develops.

Figure 8: Development process of atherosclerosis
(http://www.healthline.com/channel/atherosclerosis_images?id=18020)

Angina Pectoris occurs when the heart fails to get enough oxygen. The heart gets its oxygen from the blood flowing within the coronary arteries. If as a result of atherosclerosis, these vessels become clogged, the heart muscle suffers severely causing excruciating pain known as Angina (see Figure 9). This is an indicator of an underlying coronary heart disease.

Figure 9: Angina Pectoris
(http://www.healthline.com/channel/atherosclerosis_images?id=18019)
3.2. Deaths from cardiovascular diseases

According to the Health Affairs Policy Journal of the Health Sphere statistics (Mensah & Brown 2007), cardiovascular diseases are the number one cause of death and are projected to remain so globally. CVDs represent about 30% of all deaths in the world (see Figure 10). More people die from cardiovascular diseases than from any other form of disease. In 2005, an estimated 17.5 million people died from cardiovascular diseases and out of these deaths, about 7.6 million were due to coronary heart disease and 5.7 million were due to stroke. Over 80% of cardiovascular diseases deaths take place in third world countries. Both men and women are at equally at risk. It is predicted that by 2015, almost 20 million people will die from cardiovascular diseases, mainly from heart disease and stroke.


According to a pharmaceutical commerce e-newsletter (Shelley 2009), cardiovascular disease (CVD) and cancer have been rampant in developed countries and whereas the two run concurrently, CVD still remains the major cause of death to many people. Older adults have been generally found out to have more problems with their health and therefore tend to use more medications (Wilhelm 2009).

In some study, it has been found out that, even though there has been a percentage increase of patients who die from myocardial infarction, the number of people dying from heart failure has in fact increased (Selzman 2009). Until very recent, cancer used to be a dreadful disease of its own kind, but nowadays it can be managed well just like any other chronic disease.
Recently, the American Cancer Society published its cancer facts and figures of 2004, in which it stated that cancer (and not heart disease) was the number one killer of Americans under 85 years of age. This fact was vehemently dismissed by The American Heart Association which insisted that when all cardiovascular diseases (including stroke and other vascular diseases) were considered, cancer would still not be the number one killer disease of Americans (Fogoros 2005). From this debate, a conclusion was made that cardiovascular disease is the number one killer disease (see Figure 11).

![Cardiovascular Disease Deaths vs. Cancer Deaths by Age](http://www.americanheart.org/statistics)

**Figure 11:** Cardiovascular diseases deaths versus cancer deaths (2004)

In the United States Center for Diseases Control and Prevention, Division for Heart Diseases Prevention and Stroke Department, heart disease is also documented as the leading cause of major disability. In 2004, coronary heart disease (CHD) alone accounted for the bigger percentage of the total deaths that occurred due to CVD (see Figure 12). In 2009, an estimated 785,000 Americans have been predicted to have a new coronary attack, and about 470,000 will have a recurrent attack. About every 25 seconds, an American will have a coronary event, and about one person will die from a cardiovascular disease every minute.
Figure 12: Percentage Breakdown of Cardiovascular Diseases (VCD) in 2004
(http://www.americanheart.org/downloadable/heart/1200082005246HS_Stats%202008.final.pdf)

Figure 13 below shows an estimation of the costs that were to be incurred from cardiovascular
diseases. In this budget, CHD still leads by cost.

Figure 13: The estimated cost of CVD in the United States (2008)
(http://www.americanheart.org/statistics)
In the European Journal of Public Health Advance Access (O’Hara, Bennett, O’Flaherty & Jennings 2008), (Turpeinen 2007); Finland, Ireland and the United Kingdom have the highest rates of coronary heart disease (CHD) mortality among fifteen European Union countries. Also in the European Journal of Cardiovascular Prevention & Rehabilitation (Rayner, Allender & Scarborough 2009), it was noted that CVD was a significant cause of mortality and morbidity within the European Union and resulted in considerable economic and social costs. According to the American Heart Association, Asian countries and regions such as Japan, the Republic of Korea, the People’s Republic of China, Hong Kong, Taiwan and the Kingdom of Thailand, greater mortality and morbidity resulted from stroke than from CHD, whereas the opposite is happened in Western countries.

In one Health & Medicine e-newspaper released by The George Institute for International Health (Orpilla 2007), cardiovascular disease is on the increase in both developing and less developed countries. Countries with the higher populations like China and India are feared to have the highest number of people at risk of feeder factors like obesity, high blood pressure, tobacco smoking and diabetes. At this alarming rate, there should be proper guidance on how cardiovascular diseases can be managed.
4. Purpose of this Study

The purpose of this study is to investigate how people living with cardiovascular diseases perceive medication guidance received from pharmacists. This study seeks to find out from the informants what kind of information they receive and how they comprehend the guidance they are given. A further aim of this study is to describe the current way of thinking of people living with cardiovascular diseases when asked about pharmacists and medication guidance in general. This study explores the class of people who had once been admitted to the hospital after having suffered cardiovascular problems but have since been discharged and are today managing their conditions at home.
5. Methodology

In this study, qualitative data analysis method has been applied. Content analysis was employed to analyze the themes collected. Both conceptual and relational analysis aspects were used to find the descriptive presentation of the qualitative data. Qualitative data can be pictorial in a way. So much information can be read out of a picture and various explanations can be concluded even from one perspective of study (Anderson 2007).

Thematic content analysis portrayed the thematic content of interview transcripts by identifying common themes in the data. The initial qualitative analysis procedure was employed after data had been collected from members of Espoon Sydänyhdistys ry. The themes were then developed from the literature review, definitions and descriptions arising from the data collected from the informants (Strauss & Corbin 1990). Normally, themes come from the characteristics of the phenomena being studied (Ryan & Russell 2003).

The key concepts were then marked from the common themes of mutual interest which were extracted from the text. These themes were then grouped into similar categories of concepts, in order to make them more predictable. From these concepts, simple sentences were shaped to build a concrete narrative. In the past, content analysis as a qualitative research approach has been used by nurses with strategies to build considerations in areas previously under explored. This method is an inductive processes emerging from the discipline of sociology and many investigations of nursing practice have used the theme interview method (Polit & Beck 2004). Therefore it is prudent to conclude that this was indeed the appropriate method to use in this study.

5.1. Thesis Process

This thesis is entitled; Medication Guidance Received from Pharmacists (Perceptions of People Living with Cardiovascular Diseases). This thesis has been incorporated into a joint project involving Tapiola Pharmacy Espoo, Laurea University of Applied Science and Espoon Sydänyhdistys ry. This project advocates on how people can live free of pain caused by sicknesses and diseases. Cardiovascular diseases being a major contributor to pain in the society and in individual lives, clearly integrates into this project. The thesis process has run for a period of one year from October 2008. It has progressed smoothly throughout this time without major obstacles. The thesis process commenced when the thesis contract was signed by the thesis supervisors at Laurea University of Applied Sciences, Tapiola Pharmacy and Espoon Sydänyhdistys ry. The informants (interviewees) were active members of Espoon Sydänyhdistys ry. The first interview was done in the month of March 2009. The second
interview was done in June 2009 and the last interview was done in September 2009. This data was taped, stored and later on transcribed. The transcribed data has been carefully analyzed to draw a conclusive report by the end of November 2009.

5.2. Data Collection

After a consent letter from Espoon Sydänyhdistys ry, data was collected from the informants in form of interviews. The informants signed a consent form (see Attachment 3) before the beginning of each interview. The informants then filled in a form which collected their demographic details as well as some basic information needed (see Attachment 4). The researcher then followed a guided interview guide (see attachment 5) which had been prepared prior to the interview. Data collection was done in three phases. This data was taped and securely stored. Thereafter, areas of common grounds were verified, similar and dissimilar concepts were reviewed to determine what information was suitable for this study.

In the form for demographic information, the respondents were asked to clearly state the kind of cardiovascular disease(s) they had, the names and the number of prescription medications they used and how long they had been taking these medications. This information was filled in prior to the interview. The informants were then given first hand knowledge about their community and the issues or problems that were being investigated in this study.

The first interview took place during a heart foundation fair which brought together over two thousand persons living with cardiovascular diseases in the Espoon region (see attachment 8). During the interview demographic considerations were made. The informants were expected to clearly understand the research question that as they continued to buy their medication from the pharmacy, how would they describe the medication guidance they received? This research question was expected to support the fact that there is indeed need for medication guidance and that this could best happen at the time of purchase, at the pharmacy.

The second and third interviews were done with other selected members of Espoon Sydänyhdistys ry in June and September 2009. However, during the second interview, if the participants raised issues that had not been discussed previously, then the questions were redefined to include these issues for the third interview (see attachment 6). This was the beginning of data analysis. In this case what had been sought from the first interview was analyzed and the questions redefined accordingly to seek the new information desired.

The informants (ages 51-67), were believed to be buying their medications from Tapiola pharmacy even though this was not a point of restriction. Tapiola pharmacy is located within the Tapiola center and serves as a medication distribution center to the Tapiola Community.
They do this by providing information and advice on health, providing medications and associated services, and by referring patients to other sources of help and care when necessary. As a retail pharmacy they do sell over-the-counter medical products and instruct clients on how to safely use medicines and medical appliances.

5.2.1. The Informants

The informants (N=3) were persons living with cardiovascular diseases. They reside within the Espoon region of Finland. They are currently active members of Espoon Sydänyhdistys ry and buy their medications from Tapiola pharmacy. Espoon Sydänyhdistys ry is one of the branches of The Finnish Heart Association. It is located in Tapiola City of the Espoo region. The Finnish Heart Association is a public health organization promoting heart health. Espoon Sydänyhdistys provides information on health and encourages people towards a healthy lifestyle. They also support rehabilitative programs to people with heart diseases. It has practices and guidelines given to help save hundreds of thousands of people from death and disability caused by cardiovascular diseases. A message from Espoon Sydänyhdistys ry supports having a healthy heart by following a healthy diet, regular exercise and no smoking (see Figure 14)

Figure 14: Recommendations for a healthy heart
(http://www.healthline.com/channel/atherosclerosis_images?id=18019)
5.2.2. Method of Data Collection

Two methods of interviews were adopted in this study. The informal conversational interview and the general interview guide approach also known as the guided interview. In the guided interview, planned questions were carefully followed. Whereas, while applying the informal conversational approach, there were no predetermined questions. This was for the interviewer to remain as open and adaptable as possible to the interviewee’s way of answering. During the interview, the interviewer was to go with the flow but remain in charge and ensure that the general areas of interest were touched from each interviewee. By this, direction was given but with room for freedom to express themselves and even change their minds (Berry 1999).

Interviews were particularly useful for getting the story behind a participant’s experiences and the main task in interviewing was to understand the meaning of what the interviewees say (Kvale 1996). According to The Good Research Guide, (Denscombe 2003), allowing interviewees to speak what is in their mind, is a better way to unwind the intertwined thoughts. McNamara (2008) further explains that interviews can be used to follow up on certain issues that need further clarification.

The languages of interview were English and Finnish, which could be used simultaneously by the researcher and the informants. The need of a translator was therefore inevitable. Translation is described as an expression of sense from one language to another as well as a transmission of written or spoken language into another. Translation makes us understand the thoughts of another culture. Dusinberre (1992), further explains that the process of translation is compared to the one reporting the same words that were said by the other person without making any alterations but this can never be a possibility. He continues to state that one message can be translated into another message even if it is done defectively and fails to bring out the actual meaning (Dusinberre1992).

5.3. Data Analysis

Content analysis has been employed during this process and both aspects of conceptual and relational analysis explored. In conceptual content analysis, raw data was structured from the data collected. The basic concepts, categories and suggestions in form of words, phrases and sentences were grouped as their existence and their frequency established. The particular presence of certain words or concepts was noticed. Themes within sentences were identified if they recurred frequently or if they linked to other sentences or if they had an explanatory function in connection to any of other statements. In searching for key concepts, the existence of relating concepts was identified. During conceptual analysis, common themes are normally checked and classified (Iwashita et.al. 2008)
During relational content analysis, meanings of concepts found during conceptual analysis were checked to know how they related to one another. It has been found out that the focus should not end at mere connecting sentences but deeper meanings of the relationships are all features to be considered (Busch, De Maret, Flynn, Kellum, Le, Meyers, Saunders, White & Palmquist 2005). During this process concepts are carefully taken in and deeply scrutinized in order to perceive the descriptive perspective of the informants. Since concepts are like the central part of ideas (Daley 2004) they can only acquire greater meaning if they connect to other concepts to form a meaningful composition.

In relational analysis, particular relationships existing between the key concepts were identified. This was done when key concepts present were singled out and presented in form of simple sentences. In this process, the themes which recurred frequently were identified and linked to other correlating text especially if they had an explanatory function or if they had implications pointing to a particular explanation. These explanations were categorized and carefully scrutinized to find the common viewpoint. This kind of categorization would prohibit any other concept which could obscure the outcome. These points of view guided the coding procedures and the results led to a reliable and potentially valid conclusion.

Figure 15: The process of qualitative data analysis
(http://www.ilit.org/air/files/seidelqda.pdf)

Qualitative Data Analysis (QDA) is not direct (Seidel 1998). It involves thinking of the data one wants to collect, collecting that data, then identifying the key concepts and then placing these concepts into categories and thinking about them before finally writing a report. This process has the above characteristics (see Figure 14). In the example below, (Figures 14, 15 & 16), Content Analysis has been used to sift the data contents into meaningful and applicable units of information.
The codes below have been identified from categories of themes. The themes were recognized from certain words or text collected from the data. Data was collected from answers to the interview guides. While having in mind the research question, the motive would remain concurrent while examining deeply, the positive words used to describe this phenomenon. 

Relational analysis has been generated from the conceptual analysis by examining the relationships among concepts in of the codes. This has helped create simple sentences to describe this phenomenon in order to give suggestive answers to the research question. In Figure 16, themes have been picked from the sentences collected from the informants. These themes were identified if they recurred frequently or if they linked to other sentences or words and if they had an explanatory function in connection to any of other statements from the data collected.

### 1. The Research Question
When you buy your medications from Tapiola Pharmacy, how can you describe the medication guidance given to you?

### 2. Themes identified
(Themes were identified from answers to the interview guides)

- nurses
- pharmacy
- doctors
- together
- think
- lectures
- about
- heart
- diseases
- medicines
- courses
- beneficial
- advice
- pharmacy
- nurses
- help
- pharmacists
- medication
- management
- is easy
- not forget
- medication
- box
- everywhere
- medication
- management
- easy
- medication
- easy
- manage
- understand development medications
- stage another and why
- after understand reason medicines important remember not forget
- feel side effects headach es slight coughing Cozaar Seloken muscle strength loss good medicine understa nd side effects
- get information from Espoo Sydänyhdistys. information medicines answers to life questions organizers give lectures pharmacists doctors of heart or other health nurses supporters good
- small side effects nausea dizziness not bad believe medicine need therefore think positively
- disease suddenly not expecting suddenly doctor good relations discuss medical questions 14 pills a day confused afraid I look for help manage medicines only possibility go pharmacy nearby

Figure 16: Themes identified from collected data
Figure 17: Categories grouped into codes

### ‘Who’ codes:
- Pharmacy
- Pharmacists
- Nurses
- Supporters
- Doctors Of Heart
- Doctors
- Course
- Pharmacy
- Pharmacy Nearby
- Pharmacy
- Espoo
- Sydänyhdistys
- Pharmacy
- Pharmacists
- Nurses
- Espoo
- Sydänyhdistys
- Pharmacists
- Only Place
- Pharmacy
- Tapiola
- Doctors

### ‘Medication’ Codes:
- Medicines
- Medication
- Seloken
- Cozaar
- Medicines
- Side Effects
- Manage
- Medicine For Heart
- Medication Box
- Side Effects
- Management
- Medicines
- Medicines
- Side Effects
- Not Bad
- 14 Pills
- Good Medicine
- My Medicines
- My Life

### ‘How’ Codes:
- advice
- suddenly
- dizziness
- discuss
- together
- reason
- i get
- beneficial
- answers to life
- good
- lectures
- manage
- side effects help
- easy
- why
- easy
- understand
- remember
- not forget
- understand
- know
- information
- support
- i need
- expecting
- positively
- relations
- possibility
- discuss
- confused
- afraid
- help
- go
- seek help
4. Conceptual Analysis:

Key Concepts picked from group codes according to level of frequency

1. Pharmacy
2. Nurses
3. Pharmacists
4. medication
5. Espoo Sydänyhdistys
6. medicine
7. side effects
8. management
9. understand
10. easy
11. advice
12. discuss
13. confused

5. Relational Analysis

Relationship when key concepts are connected to generate simple sentences

1. Pharmacy is the place
2. Pharmacists do medicine management
3. Pharmacists discuss medications
4. Medication management is easy
5. Side effects are known
6. Medication management is confusing
7. Pharmacy makes medication management easy
8. Nurses can discuss at pharmacy
9. Nurses can give guidance
10. Pharmacy advice confused people
11. Espoo Sydänyhdistys gives advice
12. Espoo Sydänyhdistys, pharmacy and nurses can work together

6. Content Data Analysis

The generated data is interpreted to answer major concepts of the research question:

1. They received guidance from the pharmacy
2. They understand medication management
3. They understand side effects of medicines
4. They got advice Espoo Sydänyhdistys
5. Nurses can give guidance at the pharmacy

Figure 17: Content data analysis
6. Ethical Issues

Ethical issues were carefully considered when undertaking this study. Ethical guidelines were laid down by Laurea University of Applied Sciences, Tapiola Pharmacy and Espoon Sydänyhdistys. While carrying out the interviews, issues of confidentiality and trust were deeply implemented so as not to impair or diminish the autonomy of the informants. Matters of informed consent, right to privacy and respect and were all carefully embraced. No ethical problems were anticipated throughout the process of this study.

6.1. Autonomy

In every interview, the informants voluntarily participated in this study without any form of prejudice to freely express their perspectives concerning the issues raised on the interview guide. The interviews were done in a mutually agreed location planned by the informants. They were permitted to freely decline to answer any question if they so wished. They also had the liberty to withdraw from this project at any time without any negative consequence arising there from without giving notice to the student or the supervisors. They were free to speak in Finnish and or English.

6.2. Confidentiality

All information collected remained completely confidential. No names would appear in any thesis or reports resulting from this study. However, with their permission, anonymous quotations could be used. All data collected during this study would be retained safely in the supervisors’ office and could only to be accessed by authorized personnel. According to Bournemouth University, UK (Wheeler & Holloway 1995), clients should be assured that they are protected from harm and that whatever information they give should be released only to be used for the purpose for which it has been collected and not for any other. This data therefore remained private and confidential and was only accessed and analyzed by the researcher.

The informants received assurance about their right to privacy. During the interviews, a private place was secured so that only the researcher and the interviewee would be present. All discussions were taped and or written down so as to avoid issues of alterations. The researcher had the permission to directly make contact with the informants.
6.3. Informed Consent

After permission was given from Espoon Sydänyhdistys and the thesis contract duly signed by authorized personnel, the informants were given thorough information about this project by their person at Espoon Sydänyhdistys. They were given thorough guidance regarding their ethical rights. Before each interview, the researcher carefully explained the desire for this study before the informants signed a letter of consent to do the said interviews.

6.4. Trustworthiness

While considering issues of trustworthiness; credibility, dependability, confirmability and transferability are all connected. According to Polit & Hungler (1999), credibility refers to how well the central idea of the study is clearly maintained throughout the research process. Further, the first step should be taken when one is making choices about the central idea, the informants to be and the methods to be used in collecting and analyzing data.

In order to ensure credibility in this study, the theoretical framework was well understood that it was based on the research question and data circulating in this thesis. The researcher was required to develop a trusting relationship with the informants who were then currently active members in the Espoon Sydänyhdistys ry. Data credibility was gained when the interview was carried out in three phases so that the later interview emerged from the data collected in the first interview.

The informants were asked to check that the information they had given was correct and that no data had been manipulated during the collection process. This was to given them an opportunity to confirm the accuracy of the said conversation; and add, subtract or clarify any points that did not represent their actual intentions. The informants agreed to clarify any misunderstood concept and the researcher had the liberty to inquire additional information or clarification of such directly from the informants even afterwards.

These informants were from a dependable organization concerned with the welfare of people living with cardiovascular diseases in Espoo therefore this data was expected to be from a trustworthy source. In order to achieve confirmability, the researcher took all steps to demonstrate that the findings came from the data collected and not from other predispositions arising from personal conclusions. The data analysis represented the diverse perspectives of the informants.
6.4.1. Ethical risk

Due to rights of autonomy, some interviews took place through a translator. During this process, both the researcher and the informant remained vulnerable to ethical risks of privacy and confidentiality. However, the translator was also expected to adhere to the same oath as the researcher regarding ethical issues and manage any arising tensions of being subjective and or objective during the translation process. The translator was expected to legally understand that under no circumstance would this information be disclosed anywhere else.
7. Findings

7.1. Guidance from the pharmacy

From the data analysis, the findings are that people living with cardiovascular diseases receive guidance regarding their medications when they buy them at Tapiola pharmacy. They value the reassurance provided by the pharmacists to such an extent that they confidently stay out of the hospital but constantly keep an up-to-date record of all their medications. They consider pharmacists not only as sellers of drugs but more of a health caring personnel. The clients have faith in pharmacists and esteem to consult them in issues of medication. Most of them have in fact developed personal relationships with Tapiola pharmacists as they have the liberty to call them and seek for any information they need.

One informant spoke on how life changed in a short time. The informant had suffered heart infarction and when discharged from the hospital, the informant woke up to the unpleasant realization that there were many things to watch out for and that life would never be the same again. This informant woke up to numerous medications which would be taken at particular times and in correct doses! This discipline would be the key to this new life and guidance was needed desperately.

“.. the disease came suddenly, when I was not expecting! I was in good condition or I thought so, then suddenly this came!.... I have a personal doctor and in good relations, I called to discuss with him my medical questions because I was to start taking 14 pills a day.. I was so confused and afraid, I had to look for help with how to manage these medicines...the only possibility was to go to the pharmacy nearby....”

“...after that I understand the reason for all my medicines. These medicines are so important that I have to remember and not forget...”

7.2. Medication management

The clients know about their medications and adhere to their doctors’ prescriptions. They can now manage their medications with ease. Whereas they consult the doctors every other fourth month in a year, they fell free to walk into a pharmacy any time to seek advice. Because of frequent consultations and discussions, they have come to understand more about their doses, what they are used to treat and why they take them. They are able to predict the repercussions of failing to take the said medications. Some of them have the medicine box with them and carry them along so as to adhere to the said prescription. During the interviews affirming statements were recorded as follows;
“... with the help of pharmacists, now medication management is easy and I do not forget to take. I have with me medication box, everywhere, so medication management is made easy....”

“... I find medication easy to manage, because it is twice a day. I understand the development of my medications from one stage to another and why...”

Many of these informants have a treatment plan of drugs and other supplements that are common among people with heart diseases. These include beta-blockers to help prevent angina and reduce blood pressure, nitrates to stop anginas, blood thinners, cholesterol lowering medications and blood-vessel inflammation reducing medications, ACE inhibitors which helped lower blood pressure and relax the arteries, they also eat Omega-3 fatty acids, which inhibit clotting, lower blood pressure and triglycerides, and help maintain normal heart rhythms. In this study some of the common medicines they use include; Marevan, Digoxin, Emconcor, Cozaar, Seloken, Primaspan, Ormox, Furesis, Bisoprolol and Seretide.

7.3. Side effects of medicines

The clients are aware of the symptoms and risks unique to them during medication. Although many of the informants suffer side effects, they consider these effects as mild and negligible and believe that they benefit much more from the said medicines than loose. According to their descriptions, most of them ignored and or coped well with the side effects. However, the side effects varied depending on various factors as each person is a holistic being. Feelings of dizziness, lightheadedness, diarrhea, stomach problems, muscle cramps, nausea, indigestion, heartburn, erectile dysfunction, decreased libido and trouble sleeping were among the side effects they cope with. They allege that these side effects are generally temporal and most of them have only one or two side effects from their dosage.

“...yes I feel side effects, headaches, slight coughing with Cozaar. And may be with Seloken, muscle strength loss but it is a good medicine. I understand all side effects....”

“..I have small side effects, like nausea, may be dizziness, but I don’t think like they are bad for me, I believe that this is the medicine I need and therefore I think positively...”
7.4. Advice from Espoon Sydänyhdistys

They informants corroborated having received other guidance from Espoon Sydänyhdistys. These people are highly informed about the disease in general and about their new way of life. They do read books, magazines and get information from other health professionals and more so from the seminars and events organized by Espoon Sydänyhdistys (Attached 9). They understand the causes and nature of their diseases, the reasons for their medications and most of them understand what cholesterol (HDL and LDL) mean to them as well as how eating a heart healthy diet and exercising can help prolong their lives.

“...I get other information from Espoo Sydänyhdistys. May be not only information about medicines, but of way of life, answers to life questions. The organizers always choose who comes to give lectures, may be pharmacists, may be doctors of heart or other health supporters, but is good...”

7.5. Nurses and pharmacists

In another candid discussion with the informants, they welcomed the idea that they could discuss issues about their medical health with a nurse if a nurse was stationed at the pharmacy. They believed that the pharmacists would adhere to the prescriptions ordered by their doctors and that even though the pharmacists had no authorization to change such prescriptions, they could still trust them to discuss their medications.

They reiterated that more coordination is still needed between the nurses and pharmacists. There desire was that doctors and pharmacists should speak the same thing so that confusing matters portraying one medicine to be better than the other would not arise. They confessed having been caught in such dilemmas before. However, some of them suggested that programs could be implemented so that the pharmacists and the nurses could work intimately on this common purpose. They evidently see a steady gap between the nurses and pharmacists but agree that there is indeed deep integration between the nurses and the doctors at all levels.

“...I think and feel nurses and doctors and pharmacy should work together, like the one in Meilahti with on going lectures about heart diseases and medicines. These kinds of courses are more beneficial than advice only by pharmacy...”

“...I feel like this, just may be, a nurse is stationed at the pharmacy, I can feel happy to discuss with the nurse about some other issues... but lets see how this can be possible, you know, like the hospital, the doctors and the nurses are together...”
8. Discussion

Even though guidance is going on and clients have shown satisfaction in services they received from pharmacists, the pharmacists must still take the lead role in explaining themselves to the society. This will help open more avenues for them to be deeply engaged with the clients holistically in medication guidance. Time has reached for pharmacists to change the world. If they can only realize their predisposition in the world today; that they are the most accessible health professionals and that many people desperately need their services, then they can expand their territory. They can use their existing potential that they have first class information on medications, and yet this knowledge is coveted by the whole world. They can develop and implement such modern care plans. According to Maddux et.al (2000), patients are keen to be engaged by pharmacist in such programs.

For the community to be made aware about this service so that they can freely walk into a pharmacy and get medication guidance, individual pharmacists should be empowered to take responsibility for their own development. They should feel free, look around, determine the weak points and strive to make themselves better. They can do this by integrating with the other health promoters such as nurses to such an extent that the community can depend on them more. Wick & Zanni (2001) confirm that collaboration between pharmacists and other health care specialists like nurses are the core foundation for this beginning.

Even though in the distant past pharmacists have complained that the volume and time demands of dispensing prescriptions was an opportunity cost to the time spent using professional knowledge to help patients. Today they can be encouraged to look beyond this and implement practices that establish the patient as the primary beneficiary of the profession. In this study some informants attested to the fact that they felt attracted to an idea that they would consult the nurse if nurses were planted within the pharmacy just as in hospital environments. The informants stated that were willing to ‘discuss other issues’ with the nurse if the nurse was at the pharmacy. This can mean that some unanswered questions still linger on clients’ thoughts even after seeing pharmacists and they can sense a dividing line between nurses and pharmacists. Nurses have been known as patient advocates and campaigners of quality in medication guidance (Cameron 1996).

For this guidance to succeed, pharmacists should become user friendly to nurses and integrate their services because nurses have advanced communication skills and deal with people holistically. Nurses are able to see and deal with a bigger picture as their professional domain permits this. Nurses can overlap to other health professional boundaries without causing professional conflicts. Therefore if nurses are employed to the caring process, they can help establish a lasting therapeutic relationship with clients beyond the original purpose.
Nurses are known to be active listeners, demonstrating empathy to clients so that the patients always feel emotionally secure. If there will be need to engage the clients in frequent interviews as relevant data is being collected to evaluate patient drug therapy and health status at the pharmacy, critical thinking can be used to resolve the medication problems. Nurses can develop care plans to help guide client care and plan interventions in medication guidance.

From the findings, these clients perceive pharmacists as the health care professionals who have the greatest knowledge and skills about medicines. They believe that pharmacists can prevent and detect problems that come with medication management. They are not only highly trusted but they can be accessed by the public anytime. Therefore, as they find themselves engaged directly in patient care, they can begin to share responsibility with nurses and other health care systems and develop new models of practices within the community setting.

However, there is not only need for guidance about medication but the people living with cardiovascular diseases should be ready to accept the service that is offered to them. Even though the pharmacists may have such professional ability and are ready and willing to offer such guidance, if the persons living with cardiovascular diseases feel that they would not embrace and put to use such guidance, then the whole process will still be derailed. Both the parties need to engage each another so that the level of involvement and understanding grows deeper than probably it is today.

If clients are to remain protected under the ethical laws of autonomy which supports their rights to self determination, they should look beyond this and scrutinize what their real need is. They should not create impenetrable boundaries to the pharmacists. This responsibility still remains on the court of the clients to decide what they really desire from the pharmacists and what path they wish to follow. They can do this by voluntarily accepting the guidance offered to them and put to practice such guiding information because this is actually what they need.

Many people living cardiovascular diseases need to continue to understand that the pharmacy is a suitable center worthy of giving medication guidance and can easily be accessed without any appointments all the year round. This is unlike the doctors who can only be accessed four times a year and with timed appointments only. Today people living with cardiovascular diseases elaborately understand issues of hierarchy and believe more on pharmacists and they do not necessarily wait to take the doctors’ orders as ultimate and supreme when it comes to medication matters. Vainio (2004), described this practice as outdated. This has since saved time and more lives.
Today most people feel free to get into a community pharmacy and inquire issues about their health and or medicines and confidently take in the services offered to them. But even so, clients should still study themselves and propose what kind of information they really need from the pharmacists. They should yearn to receive such guidance by elaborately displaying their issues of concerns without any fear or reservation. Then only can guidance be taken into another level. Clients should begin to look beyond medication purchase when they get into a pharmacy and begin to feel free to discuss actual medication guidance.

While trying to predict the future of pharmacies, it has been determined that it is not only developed as a clinical profession but it is duly positioned to transform itself from the old fashioned product-oriented to a new fashioned patient-oriented profession (see Page 8, Figure 4). It was further concluded that the profession as a whole should whole heartedly pursue ways that can clearly place their primary beneficiary as the clients (Dong et.al. 2000).

As much as professional teamwork has been successful, and doctors are working together with nurses in a seamless way, this has not been so between pharmacists and nurses. If the mission of pharmacists is to help people make the best use of medicines and not vice versa, then they should embrace the services of nurses to assist them in fulfilling this noble mission. May be it would be innovative and good practice if nurses and pharmacists could work together in a multidisciplinary team.

Stubbings (2007) proposes that pharmacists will be expected to coordinate their good care with other health related professions if they wish to achieve their desired goals. Perhaps a further study can be done to on how the pharmacists can tap into the nursing profession which is rich in holistic patient care. May be a quantitative study can be done to outline some strengths and weaknesses of this proposal. New studies can then be developed to provide examples to illustrate the different designs and examine some of the relevant statistical concepts which can bring this unity into a reality.

But until then, the onus is still left on the pharmacists to campaign and create the vital confidence and understanding that is needed for this process to stand implemented. They should endeavor to erase from the memory of the community, the common concept that pharmacists are merely drug dispensers and not anything more. Perhaps the pharmacists may need to lower their curtains and see the real world around them and broaden their boundaries of operation. As Florence Nightingale said, “never lose an opportunity of urging a practical beginning, however small, for it is wonderful how often in such matters the mustard-seed germinates and roots itself”.
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March 10, 2009

ESPOON SYDÄNYHDISTYS RY
POHJANTIE 3, 02100 ESPOO
FINLAND

Attention: //////////////

Dear //////////////,

This letter is an open invitation for you to consider participating in a study I am conducting as part of my Bachelor of Healthcare Degree Program in Nursing at Laurea University of Applied Sciences. This project has been put in place by Laurea, Otaniemi and Tapiola Pharmacy, Espoo.

The purpose of this study is to investigate how medication guidance is done while focusing on Tapiola pharmacy as a medication distribution center to clients from Espoon Sydänhydistys ry. The aim of this study is to find out what guidance people living with cardiovascular diseases do receive from the pharmacists. This study will consider people who had been to the hospital after suffering cardiovascular problems but are today living at home. This study will try to find out from the clients what kind of information they have received about their medications in general.

I would like to interview five members of your organization who are able to communicate in English. I believe that because you are actively involved in the welfare of persons living with cardiovascular diseases, you are best suited to participate in this program and if you so decide please feel free to contact me so that I can give you more information about this project and what your involvement would be.

The proposed interviews will be done in a mutually agreed location. The interviewees may decline to answer any of the interview questions if they so wish. Further, they may decide to withdraw from this study at any time without any negative consequences by advising the student or the supervisors. With your permission, the interview will be done to collect information which shall be transcribed later for thematic content analysis. After the interviews, if you so wish, I could send the participants a copy of the transcript to give them an opportunity to confirm the accuracy of our conversation and to add or clarify any points that they may wish.

All information collected will completely remain confidential. No names will appear in any thesis or report resulting from this study, however, with your permission anonymous quotations may be used. Data collected during this study will be retained safely in my supervisors' office and can only be accessed by authorized personnel. No risks are anticipated as you participate in this study.
If you have any questions regarding this study, or would like additional information to assist you in reaching a decision about participating, please contact me by phone /////////////////////////////////////////////////////////////////// or by email me at becky.owiti@laurea.fi You can also contact my supervisors at; /////////////////////////////////////////////////////////////////////////////////////////////////

I would like to assure you that this study has been ethically cleared by Laurea University of Applied Sciences and Tapiola Pharmacy (see attached Thesis Contract) and I hope that the results of my study will be of benefit to your good organization as you become directly involved in the study.

I look forward to hear from you.

Thank you in advance for your assistance in this project.

Yours sincerely,

OWITI BECKY LILIAN
STUDENT, LAUREA UNIVERSITY OF APPLIED SCIENCES
Thesis Contract

Owiti Becky Lillian
Bachelor of Health Care
Degree Programme in Nursing
Thesis Contract
January, 2009
Project Name
Kivunhoito - Tapiola Pharmacy

Thesis Topic
Guidance on medication at Tapiola Pharmacy
(Case of clients with cardiovascular diseases)

Aim of the thesis
The aim of this study is to investigate the medication guidance to people living with cardiovascular diseases at home.

Role of the thesis in the project
While focusing on pain management, the proposal of this study is that guidance on medication should be done at the pharmacy if findings show that guidance is necessary. This study will also explore whether the professional guide should be the pharmacist or the nurse.

Purpose of study
The purpose of this study is to investigate how medication guidance is done while focusing on Tapiola pharmacy as a medication distribution center to clients from Sydänliito.

Theoretical basis
While people who are less informed about their medication often have greater difficulty with understanding and managing their medication, they also tend to make more medication errors. For this reason, to realize a smooth transition between leaving hospital and continued proper self-administered medication at home, the pharmacy might be the right place to dispense this crucial guidance as the clients do collect their medications from there every now and then.

Key Concepts of the thesis
Tapiola pharmacy, patient guidance, self-medication, persons living with cardiovascular diseases

Methodology of the thesis
Interviews will be done to persons living with cardiovascular diseases and who are members of the Sydänliito Group. Qualitative data analysis will be used to analyze the data collected. The discussions will show conflicting opinions and unsolved issues regarding the meaning and use of concepts of nursing procedures. Interpretation of the data will be done to support the cause of this thesis.

Preliminary objectives and research questions of the thesis
While taking medications at Tapiola pharmacy, what kind of medical guidance is offered to persons who have experienced cardiovascular diseases?

Objectives of professional growth
The main objective of this study is to support the fact that there is need for clear and sufficient guidance about medication to clients living at home.
Preliminary Timetable
The thesis process period will take one year from October 10, 2008.

Assurance of commitment to follow ethical guidelines during the thesis process

I am fully aware of being under the oath of confidentiality as the legislation in Finland prescribes when doing my thesis work. No information will be released without prior knowledge and informed consent of the participants. I assure all parties involved to keep any personal information confidential. The oath of confidentiality will remain valid after the thesis is completed.

I will take care of proper dealing with the data and will not give it to any outside persons. I will obey confidentiality and truthfulness in gathering and analyzing the data. I will guard that the thesis will not cause any harm to the participants involved. In all my actions, I will adhere to Laurea codes of research ethics.

The role of the working life partner as a facilitator of the thesis

_for:Tapiola Pharmacy_

The commitment of giving guidance by the thesis supervisor

_for:Laurea University of Applied Sciences_  _for:Laurea University of Applied Sciences_

Owiti Becky Lillian
Student; Laurea University of Applied Sciences
CONSENT FORM

I have read the information about a study being conducted by OWITI BECKY LILIAN of the Laurea University of Applied Sciences, Otaniemi. The purpose of the said study is to investigate how medication guidance is given to people living with cardiovascular diseases.

I have had the opportunity to ask all questions related to this study and received satisfactory answers to my questions including any additional details I wanted.

I am aware that I have the option of allowing my interview to be audio taped as well as written down.

I am also aware that excerpts from the interview will be included in the thesis coming from this research, with the understanding that the quotations will be anonymous.

I have been informed that I may withdraw my consent at any time without penalty by advising the student or her supervisor.

I understand that this project has received ethical clearance from Tapiola Pharmacy, Espoo and Laurea University of Applied Sciences, Otaniemi.

I have been informed that if I have any comments or concerns resulting from my participation in this study, I could contact ////////////////////////////////////////////////////////////////////////////////////////

With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.

Participant Name: ................................................................. (Please print)

Participant Signature: ...........................................................................

Witness Name: ................................................................. (Please print)

Witness Signature: ...........................................................................

Place: ...........................................................................

Date.................................................................
Demographic Form:

Age........................................... Sex .................................................................

What kind of cardiovascular problem do you have ....................................................

List the medications that you use..............................................................................

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Where do you buy your medications...........................................................................

How long have you been taking these medications .....................................................

How long have you been a member of Espoon Sydänyhdistys .................................
1. Could you please describe how you felt when you first got your diagnosis?

2. What kind of information or advice did you get about your medication? Who gave you this guidance?

3. How do you manage your medications today? Do you have a precise way of making sure that you don’t forget the doses? What can you say about medication management?

4. Do you know why you take these medications? What happens when you miss to take your medications, what kinds of feelings do you get?

5. Can you explain some side effects that you experience? How do you handle these side effects?

6. How frequently do you buy your medication? Describe briefly how you feel about the pharmacy where you buy your medication? What kind of advice or information do you normally get from there?

7. Do you have suggestions on how information can be improved? Could you please describe how you feel this service can be made to serve your needs?

8. Where else do you get information related to your medication? Do you get any advice from Espoon Sydänyhdistys? Whom or where would you prefer to get this information from? Why do you think so?

9. What do you think about this research about medication information? Should it continue or not? Why? How?

10. Do you have any general suggestions about medication information to people living with cardiovascular diseases?
Interview Guide 2

1. Describe the guidance you receive from Tapiola pharmacy.

2. How is this information important to you? Was it a new knowledge or you have had such guidance elsewhere? From whom?

3. What information do you expect to receive from the pharmacy?

4. How can the pharmacists be a great source of information to you, please describe.

5. Describe briefly how your last visit to the pharmacy was. What kind of advice or information did you get?

6. Do you have suggestions on how this information can be improved? Please describe how this could happen.

7. What do you think about this research? Should it continue? Explain how?

8. Do you have any other general suggestions about medication information to people living with cardiovascular diseases?
# Lääke ja hoito – ohjeita kotihoitoon

Hoitava yksikkö: Sisätautien Osasto S3

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Hoitoa koskevia ohjeita ja merkintöja

Lääkäri/Sairaansoitaja: [Signature]
Puhelinnumero:
Espoon Kulttuurikeskus
Tapiola, Kaupinkalliontie 10
Lauantai 28.3.2009 klo 10.00 – 16.00

Etusivu | Ohjelma 2009 | Yhteistyössä mukana | Messukassi | Yhteystiedot | Tunnelmia 2007
---|---|---|---|---|---

♥ Sydänterveyden merkittävin hyvinvointitapahtuma


♥ Vuonna 2007 tapahtumassa vieraili jo 6.000 henkeä.

♥ Yleisöllä vapaa pääsy.

Järjestäjä: Espoon Sydänyhdistys ry
www.espoonsydanyhdistys.net

http://www.sydannmessut.fi/index.html

3/17/2009