Editorial Board

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Editorial Advisory Board

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contents

The Role of the Nurse in the Management of Obesity

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Abstract

Obesity is not a simple condition of eating too much. It is now recognized that, no human condition, not race, religion, gender, ethnicity or disease state, compares to obesity in prevalence.

Obesity, a new pandemic, is associated with an increased risk of death, morbidity, and accelerated aging. The multiple therapeutic modalities used to promote weight loss are outlined with caution, especially for patients who are very young or old. The numbers of obese individuals are now reaching epidemic proportions around the world. This is contributing to the risk of inherent comorbidity. The pathophysiology of obesity, although widely debated, is still unclear with suggestions that multiple genetic mutations may have a key role in the development.

The first goal of management of the obese patient will involve dietary and behavioral modification and a program of physical exercise. In primary care settings, nurses are suitably placed to assess and manage obese patients. The nursing profession needs to rise to the challenge and prepare nurses for a specialist role in obesity management.
The aim of this article: is to clarify the problems, pathogenesis and complications of obesity, with exploration of the assessment of the nurse specialist in managing obese patients.

Introduction:

Obesity is the commonest form of malnutrition and is reaching epidemic proportions in developed and underdeveloped countries around the world ***(Al- Sendi et al, 2003***). Obesity appears to be related to family, economic and environmental determinants such as high birth weight, parental smoking, low socioeconomic status and single households ***(Danielzik et al 2004).*** Obesity is not restricted to adults and childhood obesity is on the increase ***(Rudolf et al, 2001).***

In obese and overweight individuals with a body mass index (BMI) greater than 30, the risk of developing disease which is often of a cardiac nature, such as hypertension and high triglycerides ***(Wannamethee et al, 2004).***

Central adiposity is localized around the abdomen is recognized as an indicator of obesity ***(Green et al, 2000).*** For this reason, the waist circumference is also used as an indicator of obesity and clinical risk of developing complications arising as a result of being obese. For example, males with a waist circumference greater than 102cm and females with a waist circumference greater than 88 cm will be classified as obese.

Suggested pathogenesis of obesity

Obesity is an abnormality of the feeding regulatory mechanism where the obese person will continue to eat beyond the daily nutritional requirements ***(Lemonc and Burke, 2004).*** This may be owing to the belief that eating three meals per day is a normal practice or eating may be a form of comfort that can relieve stressful situations ***(Labib, 2003).*** In addition to overeating, it has been suggested that obesity is caused by an abnormality of fat metabolism. The relationship between obesity and genetic influences is thought to exist but clear evidence supporting a definite link is lacking ***(Havel, 2004).***

Complications of obesity

The aim of treating obesity is to reduce comorbidity and reduce the twelve-fold risk of early mortality ***(WHO, 1998; Labib, 2003).*** The rate at which the risk of health-related complications develops is related to the physical fitness of the individual ***(Wei et al, 1999).*** The health-related effects of being overweight or obese can continue until old age ***(WHO, 1998).*** Women who are non-smokers and have a BMI >32 have a similar relative risk of cardiovascular mortality to a female smoker with a BMI <19 (Manson et al, 1995).

Nursing Role

As the global problem of obesity continues, there is an ever- increasing need for the evolvement of a nursing role as an obesity nurse specialist. ***Green et al (2000)*** have illustrated how the practice nurse can be of benefit in the management of the obese patient. This role requires specific educational preparation in the epidemiology of obesity, the underlying pathology, and its manifestations, the effect of obesity on health, the role of dietary and behavioral management and the pharmacological management of the condition ***(Green et al, 200).***

Education and training for this role needs to be developed in collaboration with a consultant in obesity or a health education centre. The role could also involve supplementary prescribing practice. The nurse undertaking this role would act as health educator whether in the primary

or secondary care settings. The increasing need for nurse involvement in the management of obesity is necessary if this evolving epidemic is to be managed ***(Green et al 2000).***

Green et al (2000) identified the roles and benefits of using practice nurses as educators for patients who are obese. The obese individual should be referred to a specialist obesity clinic which is equipped with appropriate-sized chairs for obese people, weighing scales that can measure -weights up to 200kg and large blood pressure cuffs. The obesity nurse specialist should obtain a detailed history of the weight gain with exploration of the reason for the referral from a physician.

It is also important to assess the individual's perception of the problem. ***Kuchler and Variyam (2003)*** found that many obese people failed to recognize their overweight or obese status. People who are obese or who are overweight often do not appreciate the severity of the problem and therefore may be hesitant to participate in a weight- reduction program, or to explore their eating habits ***(Labib, 2003).*** Obese individuals often underestimate the quantity of the food they consume by as much as 50% ***(Wadden et al, 2002).***

Psychological aspects of eating disorders should be reviewed for underlying psychological features such as loneliness, boredom or stress. Additional triggers that may promote weight gain include divorce, bereavement, stress related to employment or relationships, family concerns, illness or limited mobility ***(French et al, 1997)***. Family history of a parent or partner who is also obese may be an indicator of familial predisposition. The weight of the partner may be an indication of shared dietary habits and lifestyle; in particular, level of activity and exercise are key promoters in the development of obesity ***(Labib, 2003).***

It is also important to undertake a dietary history of the individual and explore the consumption of high-energy foods and soft drinks, e.g. french fries, hamburgers and coca cola ***(Cronibie, 1999).***

Current medication history should be explored, particularly as many drugs can induce weight gain. Common examples include antidepressants, antipsychotics, insulin, sulphonylureas, thiazolidinediones, steroid hormones and anticonvulsants ***(Pijil and Meinders, 1996).***

Physical examination is part of the overall health assessment and should include height, weight, waist circumference, blood pressure, and examination of manifestations of obesity such as varicose veins, peripheral edema or hyper-pigmented plaques which resemble moles and are

common in obese patients. It is also essential to be able to exclude genetic predisposition or medical conditions that predispose to obesity such as type 2 diabetes, Cushing's disease or hypothyroidism ***(Green et al 2000).***

Management

Obesity is a chronic health problem that requires long-term care involving dietary and behavioral modification with a plan of physical exercise. The principal aim of overweight management is to ensure that there is a negative energy balance for a period of at least 3 months. This is to promote a weight reduction of at least 10-15%, followed by a period of long-term maintenance which can hopefully maintain weight loss ***(Scottish Intercollegiate Guidelines Network, 1996).***

Dietary modification aims to ensure the individual maintains a healthy, balanced diet which is low in saturated fat and high in complex carbohydrate sufficient to allow for a deficit in energy balance of 500-600 kcal/day for males and females. Such a deficit is sufficient to achieve a weight loss of 0.5-1.0 kg/ week ***(Crombie, 1999).***

Obese individuals need support to help them accept that even 5 kg in weight loss can be beneficial, even if it means that the person continues to be overweight. A 10% weight loss is beneficial and a step in the right direction. Nurses need to support obese individuals by discussing the weight problem and the severity on the patient's health. This -will enable the nurse to gain insight into the magnitude of the problem and to negotiate realistic goals in terms of weight loss and to support and provide dietary advice which is acceptable for the individual ***(Green et al, 2000).***

Nurses should encourage obese individuals to reduce their fat intake by 30-35% and supplement their diet with carbohydrate up to 55%, as this will provide energy in the form of simple and complex sugars ***(Gibney, 1995).***

Carbohydrate is a low-energy dense component of the diet which is able to reduce hunger, unlike high-energy dense components, such as fat, which is also stored as adipose tissue. Nurses can do this by discussing the types of foods the patients consume in terms of fat content ***(Gibney, 1995).***

In reality, a weight loss of 5-15% should be viewed as a successful outcome as it may improve a health complication such as hypertension, type 2 diabetes or hypercholesterolaemia ***(Wadden et al, 2002).*** Dietary modification should be promoted in conjunction with a weekly program of exercise as weight gain can continue in individuals who remain inactive ***(Leiter et al, 1999).*** The maintenance of physical exercise is a major

contributing factor to the success of any obesity management program ***(Klem, 1997).*** In developing an obesity management plan collaboratively with the patient, the nurse should consider the current level of fitness of the individual and social circumstances, e.g. whether he/she lives alone, is employed, has family support, children, social routine and financial concerns. Advice should be tailored in order to set mutually agreed targets and goals.

Pharmacological management and surgery, such as bariatric surgery, which should only be undertaken for people with morbid obesity, are secondary options ***(NICE, 2001a).*** Pharmacological management should be considered as part of a comprehensive program that involves dietary and behavior modification and physical activity. Two anti-obesity products, sibutramine and orlistat, are approved by ***NICE (2001b).***

Conclusion

Obesity is a global disease which is independent of age and has major implications for healthcare costs. One of the reasons for the cost is the development of secondary conditions such as hypertension, type 2 diabetes, cardiovascular disease, cancer, depression, and arthritis and sickness absence from employment. Treatment options include dietary and behavioral modification, and a program of physical activity and pharmacological management to reduce weight.

One of the challenges of a prevention strategy is individualized education programs that offer the necessary health education on lifestyle, nutrition and eating habits which targets single parents and individuals from low socioeconomic groups. In order to meet the challenge of the obesity epidemic, consideration should be given to the appropriate preparation of nurses for a specialist role in obesity management.

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Stress and Stress Relief

By

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Introduction

Today's fast-paced lifestyle can leave many of us feeling pretty stressed out sometimes. Between work, managing a home, and taking care of a family, we often have little time left over to take care of our own basic needs. Sometimes we may be so busy that we fail to notice that we are actually suffering physically and mentally as a result of stress. It is important to learn to identify stress and how to deal with it.

What is Stress?

Though not always enjoyable, stress is actually a necessary part of our daily lives. Stress is defined as anything that stimulates you to act, think, or react. Sometimes this stress may be as simple as your stomach growling at you to get some lunch; other times it may be as extreme as a threat that forces you to escape from your home or office. Whatever the source of your stress, stress is something that is necessary in order to force us to accomplish certain tasks. Without stress, our bodies wouldn't react at all, even in times of extreme danger.***(Brunner and Suddarth, 1997).***

Good Stress vs Bad Stress

In order to manage your stress appropriately, it is necessary to understand the difference between good stress and bad stress ***(Potter & Perry, 1999, and Fortinash & Holoday, 2000)***

- **Good Stress:** Good stress helps us to go about our daily tasks and achieve those hard-to-reach goals. This type of stress, called eustress, helps us to learn new things, adapt to change, and engage in creative thinking. Everyone experiences good stress on a daily basis. Another form of stress that is also good is the stress that enables us to survive in times of distress. This stress makes us aware of danger and enables us to escape when we need to.
- **Bad Stress:** Bad forms of stress do not help us to achieve goals or tasks, but instead actually inhibit our ability to function on a daily basis. Bad stress occurs when too much stress begins to build up around us . Once the body feels that there is too much stress, it will

begin to break down, causing symptoms like perspiration, anxiety, headaches, and rapid breathing. This kind of stress can take a huge toll on your physical and mental wellbeing.

Sources of Stress

All sorts of things can cause the stress levels in your life to rise. From little things, like your phone ringing off the hook, to major life changes, such as a death in your family, sources of stress are everywhere. Watch out for these main sources of stress: ***(Huffman etal.,1995, Gross etal., 1995, Weston, 1996 and Porth, 1998).***

- **Internal Factors:** When stress is created by negative thoughts, worries, or feelings that come from inside you, it is described as being caused by internal factors. Low self-esteem, constant and unsubstantiated worrying, and fear of change can all be sources of major stress
- **Environmental Factors:** All of those things that are going on around you can be contributors to your stress level. Whether it be a messy office, a fight with your boss, or your living conditions at home, these factors are common causes of stress
- **Fatigue and Overwork:** We have all been overworked and overtired at some point in our lives. When we are persistently tired, undernourished, or unhealthy, stress can really begin to add up

Stress Reduction

If you can learn to reduce the amount of bad stress in your life, you will be able to enjoy life much more. It will increase your energy, alleviate depression, and bring back your zest for life. Here are some great stress management techniques that you can do at home to benefit your health and wellness ***(Vander zyles, 1996 and Carson, 2000).***

Mindfulness Meditation

Mindfulness is a form of meditation that encourages you to be aware of your surroundings. Instead of getting caught up in the one thing that is causing you stress, mindfulness teaches you how to look at the whole picture and enjoy life for all its simple pleasures. In mindfulness meditation, you take on the role of observer. Be aware of all that is around you – sights, smells, and sounds – but don't focus on any one thing. Instead, focus on embracing the environment as it is at that very moment.

Mindfulness meditation is an excellent technique that allows you to distract yourself from stressful situations, promoting relaxation and health.

Exercise

Exercise is a tried and tested technique for stress relief. Exercise, especially cardiovascular exercise, helps to moderate your emotions. When you exercise, your body releases endorphins, which are special chemicals that help to numb your pain and boost your mood. It also leaves you feeling ready for a great night's sleep! Try exercising 3 times a week for 30 minutes a day, in order to control your stress.

Progressive Muscle Relaxation

Stress can take its toll on the body as well as the mind. Stress causes our muscles to tighten up and become stiff. Progressive muscle relaxation is designed to release this muscle tension and relax the entire body. It also helps to lower your pulse rate, reduce blood pressure, and minimize perspiration. Lie down on the floor, on your bed, or another comfortable place and breathe in deeply. Begin to constrict the muscles in your body one at a time, starting with your feet. Hold each muscle tight for a few seconds, and then relax. Work your way up to your head. By the time you get there your whole body (and your mind) will be relaxed.

Deep Breathing:

Coping with stress can be very difficult at times. Deep breathing, formally known as diaphragmatic breathing, is a very popular stress reduction technique. It's also really easy to do and can be done in any quiet spot. Begin by sitting comfortably in a secluded area. Take in a deep breath through your nose, counting from 1 to 4 as you breathe in. Exhale through your mouth as your count down from 4 to 1. Repeat this breathing 20 or 30 times. Deep breathing is particularly effective at reducing stress because it increases oxygen levels in the body, which has a natural, calming effect.

Visualization:

We have all done visualization at some point in our lives – usually in the middle of winter when we imagine we are actually lounging on a warm, sandy beach. Visualization allows us to remove ourselves from reality for a short period of time, providing us with rest and relaxation. To practice visualization, all you need to do is sit or lie down in a quiet spot. Get comfortable and then close your eyes. Visualize a scene or place that is filled with happiness and serenity - it could be a placid lake or it might be

your childhood home. Focus on this image and try to imagine that you are actually there. Keep focusing until you can actually feel, see, and hear all the elements of that scene. Visualization eliminates stress by reducing anxiety and calming the entire body.

Psychotherapy

Just having someone to talk to can be a great buffer against getting too stressed out. But what if the people around you are one of your sources of stress? Consider a few sessions with a trained professional. Meeting with any type of counselor or therapist can substantially reduce feelings of stress - often after only one visit. And many therapists are trained in teaching clients relaxation techniques as well as social skills, priority setting and stress management.

Massage for Relaxation

Often assumed to just relieve physical discomfort, massage therapy is great way to relax your mind as well. Stress can induce a number of physical discomforts including tense muscles and knots in the shoulders and neck. Through different massage techniques, a therapist is able to loosen up those sore muscles thereby helping to relieve body pain. However, with this newly relaxed body, your mood also tends to improve and many people report feeling calmer after a massage. The benefits of massage on your physical and mental health are so great that many insurance programs nowadays will cover the cost of a massage performed by a registered massage therapist.

Stress Management

The stress management strategies reported by ***(Clark,1997, Huerta, 1997, Huerta, 1997,Varcarolis, 1998*** **and** ***Baue & Hill 2000).***

- **Daily Piece of Peace:**

Sometimes taking a break from what stresses you with a little good, clean fun

Stress relief game:

Games can be great stress relievers, and this free cryptogram puzzle has double the stress relief benefits! The solution to this daily cryptogram puzzle is always an inspirational quote that can help you feel less stressed. Relieve stress and sharpen your mental skills at the same time!

Learning to Draw: Relieve Stress By Being Creative

Learning to draw can not only be fun, it can relieve stress! You can get in touch with your artistic side and use drawing as a way to process emotions, distract yourself, and achieve other stress management benefits. Find out how to reduce your experience of stress and express yourself creatively by learning to draw.

Free Cool Online Game: The Stress Relief Free Online Memory Game

This free cool online game is designed to help you sharpen your mental skills, improve your memory, and relieve stress! It goes quickly, and is a lot of fun. Play the Stress Relief Free Online Memory Game for some fast, fun, free stress relief!

Music to Relieve Stress

Music can be a powerful tool in relieving stress, and can be used for tension release, relaxation, motivation and more.

❖ **Good Nutrition: More Important Than You Think!**

Stress and nutrition affect one another in several ways.

How Does Stress Affect Your Nutrition?

Stress and Nutrition: Stress can be a problem in itself, of course. But stress can sometimes lead to unhealthy lifestyle patterns—which lead to more stress! For example, when we're harried and under stress, we tend to make poor food choices. Unfortunately, these food choices can create more stress in the long run, as well as other problems. As you read the following ways in which stress can affect our nutritional choices, ask yourself this: when feeling overwhelmed, have you found yourself doing any of the following?

How to Combat Stress with Good Nutrition

Green Tea:

If you're a coffee junkie, you may not realize the effects caffeine has on your system. However, you can reduce your stress levels and improve your mental performance throughout the day if you gradually wean yourself off of large amounts of caffeine. A relatively easy and healthy way to do that is to replace coffee with decaffeinated green tea, which has a soothing taste and the added benefit of loads of antioxidants.

Try Sparkling Juice or Perrier:

If you're a cola drinker, you're probably experiencing the same health consequences from caffeine that coffee drinkers experience. A more

healthful alternative is sparkling fruit juice, or sparkling water. You'll still be getting a refreshing treat, but you'll be adding water to your system, rather than detracting it (caffeine saps your system of water, so drinking it is akin to un-drinking water!), and you'll be avoiding other caffeine-related side effects.

Carry a Snack:

Having some protein-rich, healthful snacks in your car, office, or purse can help you avoid blood sugar level dips and accompanying mood swings and fatigue. Along these lines, you should always have water handy, as it's so vital to health and proper physical functioning.

Healthy Munches:

If you find that you absently munch when you're stressed, or have a pattern of snacking at certain times in the day or week, you can replace chips, cheese puffs and other less-healthy munchies with carrot sticks, celery sticks, sunflower seeds or other more healthy choices. (Even popcorn is a better choice if you leave off the butter and salt!)

Brown Bag It:

Many people go out for lunch to fast food places, coffee shops or restaurants that serve less-than-optimally-healthy fare. While this does save a bit of time, you can save money and usually eat much healthier if you take a few extra minutes to pack and bring a lunch from home. Even if you do this only a few days a week, it would be an improvement over eating every lunch out.

No Caffeine after 2pm:

Since caffeine has a half-life in your body of at least 6 hours, caffeine you ingest with dinner can interfere with your sleep at night. It's easier to avoid sugary, fatty, and otherwise unhealthy foods if they're not in your home, practically begging you to eat them! This may sound like a no-brainer (yet it's sometimes harder to do than you'd expect), but you should go through your kitchen and throw out anything your body can't use in a healthy way. (or at least most of it.) That way you'll be forced to snack on healthy food when you're stressed.

Stock Your Home With Healthy Fare:

Even more important than getting the bad stuff out of your house, is getting healthy food in! The best way is to plan a menu of healthy meals and snacks at the beginning of each week, list the ingredients you'll need, and shop for everything once a week. That way you know you'll have what you want when you need it, and you won't have to stress over what to eat each night; you'll already have thought of it! (This makes eating at home much easier, too!)

- **Laugh More and Stress Less**

One of the most fun and effective ways to reduce stress (at least temporarily) is to have a good laugh.

The Stress Management and Health Benefits of Laughter

The Laughing Cure

Research has shown health benefits of laughter ranging from strengthening the immune system to reducing food cravings to increasing one's threshold for pain. There's even an emerging therapeutic field known as humor therapy to help people heal more quickly, among other things. Humor also has several important stress relieving benefits (***Robinson, 1991).***

Stress Management Benefits of Laughter:

- **Hormones:** Laughter reduces the level of stress hormones like cortisol, epinephrine, adrenaline, dopamine and growth hormone. It also increases the level of health-enhancing hormones like endorphins, and neurotransmitters. Laughter increases the number of antibody-producing cells and enhances the effectiveness of T cells. All this means a stronger immune system, as well as fewer physical effects of stress.
- **Physical Release:** Have you ever felt like you "have to laugh or I'll cry"? Have you experienced the cleansed feeling after a good laugh? Laughter provides a physical and emotional release.
- **Internal Workout:** A good belly laugh exercises the diaphragm, contracts the abs and even works out the shoulders, leaving muscles more relaxed afterward. It even provides a good workout for the heart.
- **Distraction:** Laughter brings the focus away from anger, guilt, stress and negative emotions in a than other mere distractions.

- **Perspective:** Studies show that our response to stressful events can be altered by whether we view something as a 'threat' or a 'challenge'. Humor can give us a more lighthearted perspective and help us view events as 'challenges', thereby making them less threatening and more positive.
- **Social Benefits of Laughter:** Laughter connects us with others. Also, laughter is contagious, so if you bring more laughter into your life, you can most likely help others around you to laugh more, and realize these benefits as well. By elevating the mood of those around you, you can reduce their stress levels, and perhaps improve the quality of social interaction you experience with them, reducing your stress level even more!

❖ **Better Communication = Less Stress = More Sleep**

While conflict is inevitable, how parents handle conflict is important for their relationship and for the wellbeing of their kids. According to a recent study from Auburn University in Alabama, children from higher conflict homes experience more stress, which affects their sleep.

How to Improve Your Relationships with Good Communication

1. **Stay Focused:**

Sometimes it's tempting to bring up past seemingly related conflicts when dealing with current ones. Unfortunately, this often clouds the issue and makes finding mutual understanding and a solution to the current issue less likely, and makes the whole discussion more taxing and even confusing. Try not to bring up past hurts or other topics. Stay focused on the present, your feelings, understanding one another and finding a solution.

2. **Listen Carefully:**

People often think they're listening, but are really thinking about what they're going to say next when the other person stops talking. While it might be difficult, try really listening to what your partner is saying. Don't interrupt. Don't get defensive. Just hear them and reflect back what they're saying so they know you've heard. Then you'll understand them better and they'll be more willing to listen to you.

3. Try To See Their Point of View:

In a conflict, most of us primarily want to feel heard and understood. We talk a lot about our point of view to get the other person to see things our way. Ironically, if we all do this all the time, there's little focus on the other person's point of view, and nobody feels understood. Try to see the other side, and then you can better explain yours. Others will more likely be willing to listen if they feel heard.

4. Respond to Criticism with Empathy:

When someone comes at you with criticism, it's easy to feel that they're wrong, and get defensive. While criticism is hard to hear, and often exaggerated or colored by the other person's emotions, it's important to listen for the other person's pain and respond with empathy for their feelings. Also, look for what's true in what they're saying; that can be valuable information for you.

5. Own What's Yours:

Realize that personal responsibility is strength, not a weakness, and admit when you're wrong. If you share some responsibility in a conflict (which is usually the case), look for and admit to what's yours. It diffuses the situation, sets a good example, and shows maturity. It also often inspires the other person to respond in kind, leading you both closer to mutual understanding and a solution.

6. Look for Compromise:

Instead of trying to 'win' the argument, look for solutions that meet everybody's needs. Either compromise, or a new solution that gives you both what you want most, this focus is much more effective than one person getting what they want at the other's expense.

7. Don't Give Up:

While taking a break from the discussion is sometimes a good idea, always come back to it. If you both approach the situation with a constructive attitude, mutual respect, and a willingness to see the other's point of view or at least find a solution, you can make progress toward the goal of a resolution to the conflict. Unless it's time to give up on the relationship, don't give up on communication.

❖ Power Napping for Increased Productivity, Stress Management and Health

The Benefits of Sleep and the Power Nap

While small children typically take naps in the afternoon, our culture generally frowns upon mid-day sleep; however, even in those who get enough sleep (but particularly in those who don't), many people experience a natural decrease in drowsiness in the afternoon, about 8 hours after waking. And research shows that you can make yourself more alert reduce stress and improve cognitive functioning with a nap. Mid-day sleep, or a 'power nap', means more patience, less stress, better reaction time, increased learning, more efficiency and better health. Here's what you need to know about power napping, and how it can help you!

How Much Sleep Do You Need? The body needs 7-8 hours of sleep per day; 6 hours or less triples your risk of a car accident. (Interestingly, too much sleep--more than 9 hours--can actually be harmful for your health; recent studies show that those who sleep more than 9 hours per day don't live as long as their 8-hour-sleep counterparts!)

The Effects of Missed Sleep: Sleep is cumulative; if you lose sleep one day, you feel it the next.

If you miss adequate sleep several days in a row, you build up a 'sleep deficit', which impairs the following:

- Reaction time
- Judgment
- Vision
- Information processing
- Short-term memory
- Performance
- Motivation
- Vigilance
- Patience

Fatigued people also experience more moodiness, aggressive behaviors, burnout and more stress.

Tips For More Effective Napping If you want to obtain more sleep, and the health benefits that go with getting enough sleep, here are some tips for more effective napping and sleep at night:

- Avoid caffeine after 3pm. It's a stimulant that can disrupt your sleep and stay in your system longer than you think; its half-life is four to six hours!
- If you don't want to nap a long time, set an alarm.
- If you don't have time for a nap, or don't feel comfortable napping during the day, try meditation; it gives your body a rest and produces slower brain waves similar to sleep.

❖ **Are You Feeling Lucky?**

Do you feel like a generally lucky person? Learn how you can actually increase the likelihood of good things happening in your life and decrease the stress you experience when bad things occur by learning to be more of an optimist.

The Benefits of Optimism

Do you know someone who seems to always have a smile and a positive thought? Hardships are seen as 'learning experiences' by these people, and even the most miserable day always holds the promise for them that 'tomorrow will probably be better'? Or are you yourself one of these people: full of optimism?

If so, you may feel that you experience more positive events in your life than others, find yourself less stressed, and even enjoy greater health and other benefits. This is not your imagination.

How to Become More of an Optimist

1. When something positive happens in your life, stop to analyze your thought process for a moment. Are you giving yourself due credit for making it happen? Think of all the strengths you possess and ways you contributed, both directly and indirectly, to make this event occur. For example, if you aced a test, don't just think of how great it is that you were prepared, but also think of how your intelligence and dedication played a role.
2. Think of other areas of your life that could be affected by this good event. Also, think of how the strengths that you possess that caused this good thing to happen can also cause other positive events in your life. For example, what other good things can come from your intelligence, dedication, and ability to effectively prepare for tasks?
3. Imagine what future possibilities could be in store. Because you hold the key to your success, shouldn't you expect to do well on future exams? Isn't a successful career a natural result?

4. When negative events occur, think of the extenuating circumstances that could have contributed to this happening. If you do poorly on an exam, for example, were you especially busy in the preceding week? Were you somewhat sleep deprived? What outside circumstances contributed to your failure? Keep in mind that this isn't necessarily a reflection of personal weakness.
5. Also remember that you'll have endless opportunities to do better in the future. Think of your next potential success, or other areas where you can excel.

Some important recommendations to manage stress day – by - day

- **Relaxing** –It's important to keep your mind and body relaxed. Meditation, prayer, having a creative outlet, and laughter all help.
- **Watch Your Body** – Before you experience ulcers, heart disease and other major health problems from stress, your body will experience milder forms of discomfort, such as headaches, stomach upset and poor sleep. When you feel these early warning signs, start practicing your tension taming techniques and put a stop to low-grade chronic stress before it becomes a bigger problem.
- **Physical Activity** –Practicing martial arts, jogging, lifting weights, or even a short walk can improve mood and reduce feelings of stress by increasing endorphins, lowering cortisol levels, and providing many other benefits. Here are some of the best ways to reduce stress with exercise.
- **Eat Well** A healthy diet gives you the energy to handle daily stress, and keeps your blood sugar levels stable so you don't experience mood swings due to low blood sugar levels. Skipping meals and making poor food choices can contribute to fatigue, greater susceptibility to illness, greater feelings of stress, and a general feeling of poor health.
- **Setting Boundaries** – Being overscheduled and rushed can be a significant cause of stress. By prioritizing your commitments and saying no to some tasks can help you be more successful with what you find to be really important, and you'll have extra time for additional stress management activities.
- **Maintain Social Support**—having a supportive network of friends can help you stay healthy and reduce stress in many ways. Friends can provide resources that you may need when you're in a bind, or a supportive ear that helps you feel accepted and understood. Studies show that having a sense of belonging can reduce your risk of

depression. And having a friend who makes you laugh can also make you healthier and less stressed.

- **Find Fun Distractions** –Playing games, reading, watching movies and TV. can all help you get your mind off of what's stressing you and onto something more pleasant. Sometimes this is just the break you need to stop a pattern of obsessing over your problems, and enable your body and mind to enter a relaxed state. When you come back to your stressors, they may not have the same powerful grip on you.
- **Keep a Positive Perspective** --Throughout the day, stop and evaluate the endless stream of thoughts that run through your mind. If they're negative, try to reframe those thoughts in a positive way. Using less negative language in your self-talk, looking for the hidden benefits as well as the obvious drawbacks of stressful situations, and reminding yourself that this, too, shall pass are all effective strategies in positive thinking that have helped many people.
- **Get Help If You Need It** --If stress is affecting your ability to work or find pleasure in life, seek help from your doctor, mental health provider or other professional. There's no need to let stress overwhelms your life, and there are many effective forms of help available. Finding it could give you the life you want and deserve.

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Clients' Satisfaction with Services Rendered by MCH Centers at Sohag Governorate.

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Abstract:

Clients' satisfaction and consumers' focus has become a prime objective in the planning and evaluation of health services. The aims of this study were to benchmark clients' satisfaction of health services at MCH centers and to identify factors that may increase clients' satisfaction. The study sample was a convenient sample consisted of 300 clients attending three MCH centers in Sohag Governorate seeking different kinds of MCH services. A specially designed questionnaire prepared by the researcher was used to collect the needed data. Results show that over all clients satisfactions reaches 63%, satisfaction increases with age and decreases with education, crowded waiting areas (89%) and long waiting hours (81%) were the higher reported problems encountered by the clients in MCH centers, no significant difference detected between the required characteristics of an ideal MCH nurse and physician, however, strong positive correlation were detected among different levels of education and the required characteristics of MCH nurse & physician. Regards clients demands for an ideal nurse and physician, good communication with the clients was the first demand from both the nurse (94%) and the physician (88.33%) followed by up-to-date knowledge for the doctors (80.66%) and able to give appropriate health education for the nurse (93%). It is recommended to computerize clients' services to facilitate access to information and to follow proper appointment services to overcome long waiting hours and crowdedness.
Key words: Clients' Satisfaction, MCH Services

Introduction:

Assessing & improving the quality of health care has become a major activity for health care providers & facilities ***(Pregler & Decherney ,2002).*** Those who provide health care for women have a particular need to assess & improve the quality of care they provide, as women seek and receive more health services than do men. Client satisfaction & consumer focus has become a prime objective in the planning and evaluation of health services (Gambone & Reiter ,1996). One of the good indications of the quality of services is the extent to which the services meet customer' expectations. Patient focused health care should therefore be the goal of

any organization that is attempting to improve the care that it delivers ***(Pregler & Decherney, 2002).*** Client satisfaction is one of the most important results of good quality care ***(Delbanco & Daley, 1996; Dimatteo ,1994; & Donovan ,1995***). Client satisfaction depends not only on service quality, but also on client's expectations. Clients are satisfied when services meet or exceed their expectations ***(Thompson & Sunol ,1995).*** Health care clients especially in poor regions often expect poor quality care, accept it without complaint & even express satisfaction when surveyed ***(Brown etal., 1995; Rosenberg, 1996; Schuler, Choque, & Rance, 1994; Schuler & Hossain ,1998; and Schuler etal., 1985) .***

Actually, good care attract, satisfy & keep clients by offering them the services, supplies, information & emotional support they need to meet their reproductive goals ***(World Health Organization (WHO) ,1996).*** Interviews with clients in Chile, found that good quality clinical services reduced clients' fears, increased their confidence in the care received & generated loyalty to the clinic ***(Vera,1993).*** In another study of Egypt's Gold Star Program they found greater increase in client flow over a 2-year period at clinics that met at least 90% of quality indicators. In general, researches found that poor medical care dissatisfies patients, discourages them from seeking care & returning for services, and prompts them to switch physicians ***(Halletal., 1993; Kaplan & Ware, 1995; and LO et al., 1994).***

The present study aims at benchmarking clients' satisfaction with different services in MCH centers, and to identify factors that may contribute to increased satisfaction.

Research questions:

1. Are the services provided by nurses and physicians in MCH centers, Sohag Governorate considered satisfactory by the clients?
2. Are there factors – identified by the clients – which may increase their satisfaction?

Materials & Methods Design: A descriptive explorative design

Setting: This study was conducted in 3 MCH centers at Sohag Governorate - Upper Egypt: 1-MCH center, (West) beside "Kasr El Thakafa", 2- MCH center, (South) El-Shaheed Abd-ElMoneem Ryiad and 3- MCH center (Bahery).

Subjects:

A convenient sample of 100 women attending each MCH center were recruited for the study according to their order of attendance & their willing to participate in the study, with a total number of 300 mothers.

Tools:

A specially designed questionnaire was prepared by the researcher after extensive reviewing of literatures - validated by 3 Community Health Nursing experts - to collect data about the following:-

1. Socio-demographic data e.g. age, education,
2. Global clients' satisfaction of MCH services e.g. perinatal services, well baby clinic, immunization, etc...
3. Criteria of an ideal MCH' nurse & physician from the clients' point of view in relation to professional qualities, communications, information…
4. Problems faced by the clients while receiving MCH services in relation to physical environment, laboratory services, medication,…
5. Factors which may contribute to increase clients' satisfaction of MCH services reported by clients.

Method of data collection:-

The necessary approval was secured from the authoritative personnel to conduct the research in the 3 MCH centers. A pilot study was done on 10% the sample of one MCH center, (10 mothers), to test the questionnaire for clarity & completion. The purpose of the study was explained to the clients who are willing to participate in the study. Those clients who can fill the questionnaire by themselves, were given the questionnaire & the needed instructions & guidance & those who cannot, were helped by the researcher through a personal interview, in a private room at the health center.10-15 questionnaires were collected / day for 2-3 days/ week in each health center, until the convenient sample has been attained, (100 / H. centers)

Statistical analysis:-

Data collected were coded, analyzed, tabulated & presented in descriptive & association forms by the researcher and the necessary tables were prepared.

Results:

Table (1):

Shows that 40% of clients were in the age group 20 - 30 years old. Satisfaction rate increases with age. Overall clients' satisfaction was 63%.

Table (2):

Shows that the university educated clients show the least satisfaction rate (30.4%), they represent only 15.3% of the total sample. While less educated clients (illiterate &

elementary educations group) show the highest satisfaction percentage (81.67%). Satisfaction decreases with education.

Figure (1):

Shows that satisfaction increases with age & decreases with education.

Table (3):

Shows the problems faced by MCH clients: Where clients reported crowded waiting area as the most annoying problem (89%), followed by long waiting hours (81%) & insufficient drug supplies (71%).

Table (4):

Shows the required characteristics of an ideal MCH nurse & physician, where it reveals that good communication was the most required character for both nurses (94%) and physicians (88.33%). Followed by providing proper health education for nurses (93%) & having up-to-date knowledge for physicians. No significant difference was found between demands needed for nurses and physicians where calculated T = 0.38 & the tabulated one under 5 % = 2.14. On the other hand, a strong positive correlation was found between groups (1 & 2) = 0.81, (1 & 3) = 0.87, (2 & 3) = 0.93, (4 & 5) = 0.95, (4 & 6) = 0.88 and (5 & 6) = 0.9, which mean that education affect clients' demands.

Table (5):

Show factors which may contribute to increase clients' satisfaction from their point of view in a descending order, where experienced staff was the first demand by 95% of the clients followed by effective – free medication (93%) & full range of laboratory services, (86%).

Discussion:

Various studies have shown client satisfaction to be positively correlated with clinical outcomes & with service utilization ***(LO etal., 1994; Pichert, Miller & Hollo 1998; Hall & Doran 1988; Kane , Maciejewski & Finch ,1997 and Linn & Burn 1982)***

Similarly, dissatisfaction is consistent with expectations ***(Lee & Kasper, 1998 and Montner , Sergent & Case ,1998)*** . Therefore practitioners wish to monitor the degree of satisfactions experienced by clients, as well as identify the factors that influence this. The aims of this study were to benchmark clients' satisfaction with MCH services in Sohag governorate & to study factors that may contribute to increase satisfaction.

Data of this study shows that the overall satisfaction among the present sample was 63% and satisfaction percentage increases with age & decreases with education. This may be explained by decreased awareness of younger clients with the available resources that is why they expect more and by age they learn to be satisfied with the minimal or the available resources especially in poor regions. This is consistent with ***(Brown et al., 1995; Rosenberg, 1996; Schuler, Choque, & Rance, 1994; Schuler & Hossain, 1998 and Schuler et al., 1985)*** who reported that health care clients in poor regions often expect poor quality care and accept it without complaint and even express satisfaction when surveyed. Although satisfaction as expressed in interviews or surveys does not necessarily mean that quality is good, it may mean that expectations are low, this may be because they want to please the interviewer, afraid care might be withheld in the future, cultural norms against complaining or because they respond positively to the word satisfied ***(Brown et al., 1995; Rosenberg 1996; Ndhlovu, 1995; Williams, Schutt-Aine & Cuca 1996; Mawajdeh,Qutob and Binraad, 1996 and Calla1991).*** On the other hand, highest educational attainment was found to be the variable most strongly related to satisfaction ***(Ciaran O'Neill, 2006),*** the researcher also added that better educated individuals were less likely to be satisfied with GP services - higher levels of education may be associated with higher expectations of GP services, or may be associated with less confidence in the ability of their GP***. (Hall & Dornan ,1990).*** As for the problems faced by clients in MCH centers, they reported many, but the most frequently reported problems were, crowded waiting areas, long waiting times, insufficient drug supply & inadequate laboratory' services. Long waits are so common in health care facilities ***(AVSC International (AVSC). COPE, 1995) and Dwyer, Miller & series (1992***). Causes of long waits and their solutions vary from one place to another. Example of such causes is: During providers preparing the clinic or conducting group talks (***Lynam, Smith and Dwyer, 1994)***. Completing paper - work after seeing each client add to delays. Part of the solution was to recognize the clinic schedule to match the flow of clients-preparing the clinic at the end of the day, saving paper work for the afternoon ***(Duran-Arenas, 1997)***. He also added lack of an appointment system, inappropriate scheduling of personnel & poor handling of long waiting hours increase over crowdedness of clients.

Another very important problem reported by nearly half of the clients & constitute a major public health problem is the delayed arrival of family planning materials e.g. IUDs & injections where they mentioned that they have been told about shortage of such materials and they should

come later. Several studies have found that poor care & incomplete services explains why some people stop using family planning. Family planning clients may discontinue their method or stop using family planning all together if the program runs out of supplies or if clients cannot get the method they want ***(Cotton etal., 1992)*** .Shortage of immunization materials is another serious public health problem mentioned by two fifths of the clients, who are really concerned with this problem, (having children in age of immunization). Some clients reported shortage of immunization materials especially D.P.T. & polio-vaccine for more than two months in MCH centers & even at private doctors' clinics within Sohag governorate. Clients are dissatisfied when told to come bake another day or to go to another facility ***(Ndhlovu, 1995).***

Good communication was the top priority mentioned by the majority of clients as a required criteria for both MCH nurse & physician, followed by having up-to-date knowledge & sufficient information for the physician & giving proper health education & patient and helpful for the nurse. This reflects that clients are expecting good scientific knowledge & up-to-date knowledge from the physician and only good communication from nurse, they didn't mention that the nurse should have up-to-date knowledge & scientific information as physicians especially within the low educated clients where less than half of the clients reported these two criteria are needed for the nurse. Clients' education found to have a positive correlation with criteria of an ideal nurse & physician where the majority of highly educated group were concerned with scientific & up-to-date knowledge for the physicians while illiterate & elementary educated clients concerned with communication & only around three fourths mentioned the importance of scientific information. As for MCH nurse, the university educated group can identify her different roles with nearly same high percentages, while the other illiterate & elementary educated group could identify only her ability to give proper health education, so they see her as a health educator (87.5%) rather than care given (16.67%). In both developed & developing countries, clients share seven major concerns ***(Ainsworth, 1985; Allman, Rohdeand Wray, 1987 and Asera et al., 1996 & others),*** these are:- Respect & friendliness- understanding especially to their particular situation & needs-complete and accurate information-technical competence - access to different services & supplies - thorough explanation and examinations to everyone alike and finally, getting the results they wanted which outweigh all other factors in judging quality of care. This is consistent with what clients have reported as the desired criteria for an ideal MCH nurse & physician, and constitute some of the

factors reported by the clients which may contribute to increased satisfaction of health service as the majority (95%) of clients demand a well experienced staff. In service training is seen as the remedy for many quality problems. Before turning to training, managers should analyze the causes of poor staff performance, which often lies with systems that discourage providers from applying their knowledge & skills effectively ***(Blumenthal, 1996; Graeff, Elder & Booth 1993; and Wolff, Suttenfield & Binzen 1991).***as inadequate equipment & supplies, little supervisory support, few rewards, inappropriate evaluation & limited opportunities to practice skills, ***(Wolff, Suttenfield and Binzen 1991).***On-the-job training is a common way to refresh update, & expand providers' knowledge as well as to orient new staff ***(Gambone & Reiter 1996 and Dwyer & Jezowski 1995)***. Effective, less expensive, and less disruptive alternatives to formal training are supportive supervision, informal on-the-job training, coaching & job aids as wall charts, flip charts, & check lists ***(Ippolttoand Miller 1998).*** Distance education offers another alternative to off-site training. It can bring a standardized curriculum to scattered & isolated workers, ***(Storey, 1998).*** Availability of proper laboratory services was mentioned by 86% of clients as a factor which may help to increase satisfaction. As well as, availability of free medication. ***(Bennet et al., 1994)*** reported that clients sometimes want inappropriate tests, procedures or treatment in the mistaken belief that they constitute good quality. In response unnecessary medicines for childhood diarrhea ***(Paredes et al., 1996)*** and have given unnecessary injections to ill adults ***(Bernhart, 1995)*** in both cases, providers were afraid that clients would switch to other providers if they did not receive the care they expected.

Conclusion:

Data of the present study reveals that:

Clients' satisfaction of MCH health services in Sohag governorates, reaches 63% of the total sample.

Satisfaction increases with age and decreases with clients' education. Several problems have been reported by the clients' during obtaining MCH services, e.g. long waiting hours, crowded waiting area, insufficient drug supply, inadequate lab. Services,

No significant difference was found among the reported required characteristics of an ideal MCH' Nurse and physician, while a strong correlation was found among the required characteristics & the level of client's education.

Well experienced staff, offering free effective medication, conducts an accurate and full range of laboratory investigations, decreased waiting time, following appointment system, were some of the factors which may contribute to increase clients' satisfaction of MCH services.

Recommendations:

Formal on-the-job training when possible, or supportive supervision, informal on-the-job training, coaching and job aids as an effective, less expensive and less disruptive alternatives to formal training, to refresh, up date and expand providers' knowledge .

Considering staff training' certificates as a must for staff promotion & incentives.

Computerizing clients' services to facilitate access to information & to help following proper appointment services, which consequently help decreasing waiting time.

Ensure availability of essential drugs & laboratory services, even with reduced fees.

Further researches are needed to benchmark, measure, and analyze clients as well as providers satisfaction of MCH services on a global level in all governorates.

Table (1): Percentages of Clients' Satisfaction for MCH Services In Relation To Their Age

Clients' age	No.	%	Satisfaction No.	%
Up-to-20	54	18.00	25	46.3
21 – 30	120	40.00	71	63.3
31 – 40	76	25.33	51	67.1
More than 40	50	16.67	37	74.0
Total	300	100	189	63

Table (2): Percentages of Clients' Satisfaction for MCH Services In Relation To Their education:

Education	No.	%	Satisfaction No.	%
Illiterate & elementary	120	40.00	98	81.67
Intermediate	134	44.67	77	57.51
University	46	15.33	14	30.42
Total	300	100	189	63

Table (3): problems faced by MCH clients in MCH centers:

Problem	No.	%
Growded waiting area	267	89.00
Long waiting time	243	81.00
Insufficient drug supply	213	71.00
Inadequate laboratory services	174	58.00
Poorly maintained premises	212	70.66
Missed clients' files	115	38.33
Inadequate bathrooms	223	74.33
Carelessness from staff	197	65.66
Serious public health problems: - Delayed arrival of Immunization material - Delayed arrival Family planning methods	 120 143	 40.00 47.66

Table (4): Criteria of an ideal MCH' nurse & physician from clients' point of view.

	D	O	C	T	OR	N	U	R	S	E
Education	Total	Total	(1)	(2)	(3)	Total	Total	(4)	(5)	(6)
Factors	No.	%	%	%	%	No.	%	%	%	%
Sufficient information	229	76.33	60.83	84.30	93.47	142	47.33	25.00	54.47	84.72
Up-to-date knowledge	242	80.66	62.50	91.70	95.65	123	41.00	28.30	38.80	80.40
Appropriate H. education	174	58.00	55.83	51.49	82.60	279	93.00	87.50	97.00	95.65
Good communication	265	88.33	88.30	86.56	93.47	282	94.00	90.00	97.76	93.47
Proper care	220	73.33	58.30	81.30	89.10	92	30.66	16.67	26.12	80.40
Enough time for exam.	196	65.33	50.80	73.10	80.40	113	37.66	23.30	38.80	71.74
Referral when needed	129	43.00	30.00	48.50	60.87	139	46.33	44.16	36.65	80.40
Patient & helpful	97	32.33	26.60	32.08	47.80	275	91.66	85.00	95.52	97.82

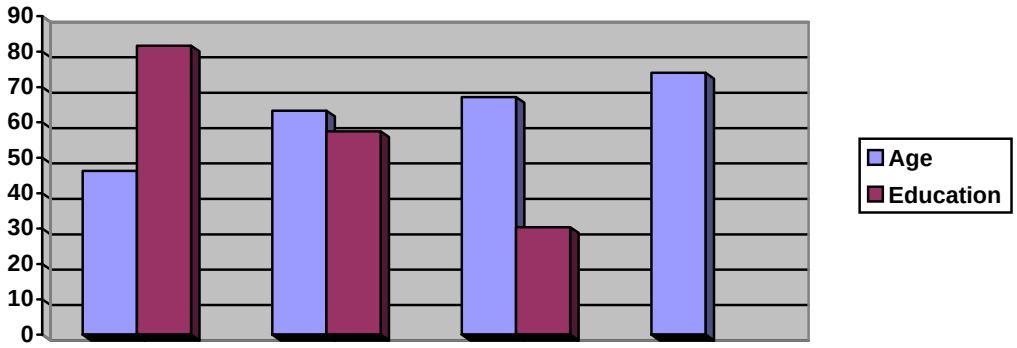
Computed T= 0.38 Tabulated T at 5% = 2.14, there is no significant difference between demands needed for nurses & physicians.

Table (5): Factors contribute to increase satisfaction from the clients' point of view:

Factors	No.	%
Experienced staff	285	95
Free- effective medication	279	93
Accurate & full range of lab. Services	258	86
Clean & organized environment	234	78
Decrease waiting time	219	73
Fell appointment system	192	64
Availability of contraceptive methods	145	48.33
Availability of immunization materials	130	43.33
Computerized fills	98	32.66
* others	72	24

**Clean comfortable bathrooms* *Proper space for health education* *Good communication.*

Fig 1: Satisfaction increases with age & decreases with education



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الملخص العربي

رضى العملاء عن الخدمات المقدمةمن مراكز رعاية الطفولة والأمومة

بمحافظة سوهاج

د/ منى صادق شنودة – أستاذ مساعد تمريض صحة المجتمع
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اصبح التخطيط والتقييم للبرامج الصحية يعتمد اعتمادا كبيرا على رضـى المنتفعـين بالخـدمات الصحية ومدى استجابتهم للخدمات المقدمة لهم - كان الهدف من هذا البحث هـو تحديـد مـدى رضى المنتفعين بالخدمات الصحية بمراكز رعاية الطفولة والأمومة بإحدى محافظات الصعيد (محافظه سوهاج).

وشملت عينه البحث ٣٠٠ مترددة من ثلاث مراكز صحية بالمحافظة توافدوا على هذه المراكـز لأسباب مختلفة ، وقد استخدمت استمارة جمع بيانات خاصة – أعدت بواسطة الباحثـة – لجمـع البيانات اللازمة . أشارت النتائج إلى أن نسبه رضى المترددات عامه على الخـدمات الـصحية المقدمة لهم تصل الى٦٣% وان الرضى على الخدمات يزدادا مع التقدم في السن ويقل مع التقـدم في التعليم وكانت أهم المشاكل المذكور من المترددات هي ازدحـام أماكـن الانتظـار (٨٩%) وطول ساعات الانتظار (٨١%).

أيضا لا توجد فروق معنوية بين المواصفات المطلوب توافرها من الممرضة والطبيب بـالمراكز الصحية وكانت أهم المطالب هي المعاملـة الحـسنه مـن الممرضـة (٩٤%) ومـن الطبيـب (٨٨,٣٣%) تليها المعلومات الحديثة للطبيب (٨٠,٦٦%) .
وكانت أهم التوصيات هي حفظ بيانات المترددات على الكمبيوتر لسهوله الوصول إليهـا وتقليـل ساعات الانتظار .

Patient's Responses to Selected Invasive Procedures In Medical and Surgical Wards at El-Manial University Hospital

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Abstract:

The aim of this study was to identify the patient's responses both physically and psychologically to selected invasive procedures (venipuncture, naso-gastric intubation and urinary catheter insertion). A sample of convenience of one hundred adult patients subjected to selected invasive procedure in both medical and surgical wards were recruited for this study. Three tools were utilized to collect data pertinent to the study. A semistructured interview and participant observation techniques were utilized to collect data at El-Manial University Hospital. Frequency and percentage distribution and chi-square test were used for the analysis of data. The study findings showed that the majority of the studied group subjects (medical and surgical patients) exhibited: facial expression of stress, and vocalization of stress ($\chi 2 = 8.98$, $p<0.05$; $\chi 2 = 21.24$, $p<0.05$ $\chi 2 =14.43$, $p<0.05$; $\chi 2 = 136.36$, $p<0.05$ respectively) while non experienced changes in vital sings, sweating and /or pupil dilatation. In relation to patients psychological responses the majority of the subjects reported that they become stressed due to: lack of information about the procedure, the presence of strange persons during the procedure, and absences of health care providers watched the procedure after insertion. Moreover all the study subjects indicate that all the selected invasive procedure were painful. In light of the study results, replication of the study on a larger probability sample, and correlation of the socio-demographic data with the physical and psychological responses were recommended to be investigated.

Introduction:

Human beings are complex organisms with interacting biological, psychological, behavioral, emotional, and spiritual systems. Systems within the human body are referred to as the internal environment. Systems outside the human body are known as the external environment ***(Linton & Maebius, 2003).*** Health and illness are affected by both the internal and the external environments. On the other hand human responses to actual or potential health problems include a myriad of reactions, many of them based on thoughts, emotions, and past experiences. Because of cultural, educational, and social differences, individuals have different concepts about what constitutes health and illness ***(Smeltzer & Bare, 1996).***

All patients in a hospital setting experience increased physical stress. All are under increased mental stress because of their concern about well-being. However, all patients do not cope equally well with stress. Intrapsychic adaptation is different in each human being, no two people ever respond emotionally in the same way to the same event. This contrasts with physiological adaptation, which is objectively observable and more predictable ***(Goldberg & Novack, 1992).***

The complexities of personality development and the resulting intrapsychic dynamics in the human mind result in an infinite number of possible responses, whereas, on a physical level, the body reacts the same way to a given illness in the majority of persons ***(Kiecolt-Glaser & Glaser, 1992)***. Hospitalization is a stressful event for most people. The hospital environment introduces new sights, sounds, smells, and routines into daily life. These changes challenge the patient's autonomy and control. Even people who are sick want to maintain a sense of control over their environment. When they can not maintain control, powerlessness becomes an additional stressor ***(Linton & Maebius, 2003).***

The ability to control what happens to oneself is important to most people. When a person is hospitalized, he/she defers much of his/her control to the dictates of the institution and various caregivers. Every patient therefore may be at risk for maladaptation because of lack of control over what is happening ***(Schussler, 1992, Small & Graydon, 1992, Terry, 1992, Weiner & Dodd,1993).*** Insecurity and anxiety on admission to hospital, or during a longer stay when progress is not as expected, can lead to aggressive behavior, either active or passive. It may reflect a more general impatience with procedures that are not understood, and can involve relatives ***(Adams & Bromley, 1998).***

All individuals may come into contact with the health services at different stages in their lives. Frequently, contacts with the health services are major events in an individual's life (accidents, serious illness, surgery or childbirth). Many other more trivial medical procedures may be intensely stressful to patients because of their unfamiliar, invasive or painful nature. Such stressors will be intensified in the case of the hospital patients, who will have greatly diminished control and contact with their families ***(Messer & Meldrum, 1995).***

Another aspect of control that a patient loses is related to his/ her own body boundary with tubes and other objects inserted into his/her body through the skin or the various natural or surgical openings in the body. Examples of these invasive lines are intravenous fluid, naso-gastric and tracheal suctioning tubes, endotracheal tubes, central venous and arterial blood pressure lines, chest tubes, gastrostomy, and indwelling urinary catheters ***(Barry, 1996).*** Some patients feel uneasy and insecure about the entrance of substances into their body. It is important to be aware of such uneasiness, and the reason for the various tubes can be explained ***(Surman, 1991).***

Certain intrusive nursing, diagnostic, or monitoring procedures can be threatening to body image. Procedures such naso-gastric tube insertion, urinary catheterization, injections, and enemas can affect body image not only by piercing the body's boundaries with a foreign object but also by symbolizing the body's dependence on an external force to regain health. This dependence may increase a person's sense of powerlessness ***(Bolander, 1994).*** Therefore, it is important for nurses to be aware of the different responses of the patient which affect his condition, his security and threaten his adaptation. Therefore the purpose of the study was to identify the patient's responses both physically and psychologically to selected invasive procedures (venipuncture, naso-gastric intubation, and urinary catheter insertion) in medical and surgical wards at El–Manial University Hospital.

Significance of the Study:

Identification of patient's responses towards the insertion of selected invasive procedures (venipuncture, naso-gastric intubation and urinary catheter insertion) could be of help by giving insights to nurse to consider patient's humanity, to plan for more quality of care and to help the patient to adapt and control over what is happening. Knowledge about the invasive procedures and treatments allows the patient to fully participate more in decisions regarding treatment alternatives.

Aim of the Study:

The aim of the study was to identify the patient's responses both physically and psychologically to selected invasive procedures (venipuncture, naso-gastric intubation, and urinary catheter insertion) in medical and surgical wards at El–Manial University Hospital.

Material and Methods:

Research Design

An exploratory descriptive research design was adopted to fulfill the purpose of the study. It helps the researcher to observe, describe, and document aspects of a situation as it naturally occurs. As well, this design helps to establish a database for future research (Polit & Hunger, 1995).

Subjects:

A sample of convenience of 100 adult male and female patients; admitted to medical and surgical wards at El–Manial University Hospital affiliated to Cairo University. The following selection criteria were established:

Adult patients their age ranged between 18 to up to 60 years old.
Fully conscious with no mental disorders.
Undergo one or more of the selected invasive nursing procedures (venipuncture, naso-gastric intubation, and urinary catheter insertion).

Protection of Human Rights

Permission to conduct the proposed study was obtained from the hospital authorities of El-Manial University Hospital affiliated to Cairo University. Prior to the initial interview, each potential patient was fully informed with the purpose of the study. The researcher emphasized that participation in the study is entirely voluntary and anonymity of the patient was assured through coding the data.

Setting of the study

The study was conducted at medical and surgical wards of El- Manial University Hospital affiliated to Cairo University.

Instrumentation

The following tools were utilized to collect data pertinent to the study variables.

1. Patient's Physical Responses Observational Sheet (PPRsOS) adopted from (Jacox, Carr & Payne 1994), it consists of two parts:
   Behavioral responses as facial expressions (grimacing, facial tension); vocalization (moaning, Sighing, crying); verbalization (praying,

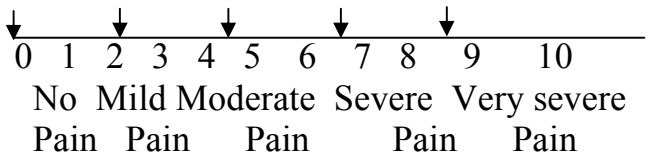
counting); body action (rocking, restlessness); behaviors as (massaging, irritability, focus on equipment).

Physiologic responses as diaphoresis, cold clammy skin, increased systolic and diastolic B.P., increased pulse rate, flushing, decreased intestinal motility as nausea, vomiting. Responses to the behavioral and physiological data were graded as (1) for the present data and (0) for the absent one. The greater the magnitude of physical responses (behavioral and physiological responses) scale events reported, the greater the number of problems described by the patients.

2. Patient's Psychological Responses Sheet (PPRsS) which consists of:

A questionnaire sheet adopted from (Volicer & Bohannon, 1977) contains variables related to lack of information about the procedure, unfamiliarity of surroundings, isolation from other people and threat of severe illness. In this questionnaire if the patient replies "Yes" he will be graded (1) and if "No", he will be graded (0). The greater the magnitude of stress scale events reported, the greater the number of problems described by the patients i.e, increased pain and slower recovery.

Numeric Pain Intensity Scale (NPIS) adopted from (the Agency for Health Care Policy and Research (AHCPR) and U.S. Department of Health and Human Services, 1992), it is a visual analogue scale to measure a variety of subjective phenomena. It consists of a line of 10 cm long with verbal anchors at either end. The patient is asked to place a mark through the line at the point that best describes how much pain is experienced at that particular moment (during the insertion of the selected invasive procedure).



3. Background data, this data sheet was designed by the researcher. It includes data related to:

Subject socio-demographic variables as: gender, age, marital status, number of dependents, level of education, occupational status, and total income/month.

Selected medical variables e.g. number of previous exposure to the selected invasive procedures, and the base line vital signs.

Pilot Study

A pilot study was conducted on 20 patients (10 patients from medical wards and 10 patients from surgical wards), to establish face validity of the study tool, judge the feasibility of conducting the study, and test the ability of the tool to elicit the desired information. As well as, the tool was tested for appropriateness, content, wording and order. According to the results obtained from the pilot study, required changes in the tool were done. The pilot study sample was excluded from the main study sample.

Procedure:

Once official permission was granted from the research committee and from the heads of the selected hospital wards to proceed with the study, one of the researchers initiated data collection. The admission sheet of the patient was revised to confirm the name of the patient and the order of the doctor to insert these selected invasive procedures. Each potential subject was informed about the purpose and the nature of the study. Voluntary participation, confidentiality and anonymity of responses were assured. All patients who agreed to participate in the study were interviewed to fulfill the background data sheet and were observed during the insertion of the selected invasive procedure to fulfill the (PPRsOS) and immediately after the procedure, the interview was completed to fulfill the (NPIS) and the questionnaire sheet of (PPRsS) to assess patients' psychological responses during and after the selected invasive procedure. Collection of data lasted seven months starting from April to October/2004.

The time required to respond to the questionnaire sheet varied from one patient to another depending on the patient's condition. The average time was 20 – 30 minutes. Patient's responses were checked and calculated.

Result:

The statistical analysis of data pertinent to this study was represented in three sections:

Section (1) cover result related to subjects sociodemographic and selected background variables (table 1 and 2). Section II: represent data pertinent to patients' physical responses which covers: patient's behavioral and physiological responses (table 3, 4 and 5), and section III is devoted to the description of patient's psychological responses.

Section I subjects sociodemographic and background data:

The study subjects consist of 100 adult patients, among patients from medical wards 24 were males (48%) and 26 were females (52%) and patients from surgical wards were 33 males (66%) and 17 were females

(34%). As for age, it ranged from 18 to up to 48 years old ; with a mean of 40.32 ±12.7 for surgical patients and a mean of 46.24 ± 16.41 for medical patients. The majority of the subjects were married (74% in surgical patients and 66% in medical patients). In relation to the number of dependents, the majority of both groups had 3 to 5 children (are equal percentage of 54 %). Additionally, the highest percentage of the subjects have basic education among the surgical patients and the medical patients (40% and 44% respectively), while the minority have university education (4%) in both surgical and medical patients.

As regards occupation, relatively high percentages of the subjects were either employed in non- governmental jobs or housewives. The total income/month of the study subjects ranged from less than 300 up to 700 Egyptian pound/month with a mean of 246 ± 188.6 for surgical patients, and a mean of 286 ± 241.66 for medical patients.

It is apparent from **table (1)**, more than half of the subjects (61%) were exposed to IV access insertion, while the minority of the study subjects were exposed to urinary catheter insertion (21%) and naso-gastric intubation (18%). As regard subjects past exposure to past insertion of the invasive procedures as obvious 47.4% of the study subjects have been exposed to venipuncture, while 28.1% of the study subjects who have never exposed to past insertion. Moreover 12.3% only of the study subjects have been exposed to more than one procedure.

As regard subjects pre and post procedural vital sings it is clear from table **(2)** that, there is no statistically significant difference between the study subjects in relation to pulse, respiration, systolic blood pressure. In the other hand, there is a highly significant difference in relation to post procedure temperature χ 2= 10.38, P< 0.05). Also, there is a statistically significant difference in relation to post procedure diastolic blood pressure (χ 2= 6.54, P< 0.05). Additionally, there is no significant difference between the study subjects in relation to elevation, decrease and no change in vital signs.

Section (2) patients' physical responses:

In relation to subjects' behavioral responses to the selected invasive procedure, it is apparent from **table (3)**, that no statistically significant differences were detected in relation to behavioral responses between medical and surgical group.

While in **table (4)** a highly statistically significant difference were exist among each group of the study (medical and surgical) as regards the

following behavioral responses to the insertion of the selected invasive procedure; facial expression ($\chi 2 = 8.98$, $p<0.05$; $\chi 2 = 21.24$, $p<0.05$ respectively), vocalization ($\chi 2 = 14.43$, $p<0.05$; $\chi 2 = 136.36$, $p<0.05$ respectively). In relation to verbalization of the behavioral responses, there is a highly statistically significant difference among each group of the surgical group only ($\chi 2 = 8.70$, $P>0.05$). No statistical significant difference was found among each group of the study in relation to body action.

As regard patient physiological responses to the insertion of the selected invasive procedure; table (5) reveals that, there was only a statistically significant difference detected between the two study groups in relation to diaphoresis ($\chi 2 = 4.47$, $P<0.05$). While all other physiological responses had no significant differences among the two study groups. Also, the table shows that, there is a highly significant difference found among each group of the study subjects in relation to physiologic responses ($\chi 12 = 84.51$, $P<0.05$, $\chi 22 = 76.99$, $P<0.05$).

Section (3) patients' psychological responses:

In relation to patient psychological responses to the insertion of the selected invasive procedure table (6): shows that there were no statistically significant differences between the two study groups in relation to lack of information about all items except for identifying the "not knowing when procedures to be done" that was highly significant ($\chi 2 = 6.8$, $P<0.05$) among the study subjects. Also, it is clear from the table that, there was a highly statistically significant difference found among each group of the study subjects (surgical and medical groups) in relation to lack of information ($\chi 12 = 131.58$, $p<0.05$, $\chi 22 = 131.93$, $p<0.05$). It is apparent also from the table that, there is only a highly statistically significant difference found in identifying "being awakened in the night by the nurse" ($\chi 2 = 11.88$, $p<0.05$) among the study subjects. Moreover, it is apparent from the table that, there is a highly statistically significant difference for each group of the study subjects (surgical and medical) in relation to unfamiliarity of surrounding ($\chi 12 = 85.7$, $P<0.05$, $\chi 22 = 63.67$, $P<0.05$).

On the other hand there is no statistically significant differences between the study subjects in relation to isolation from other people, while it reveals that, there is a highly statistically significant difference for each group of the study subjects (surgical and medical), ($\chi 12 = 61.1$, $P<0.05$, $\chi 22 = 44.0$, $P<0.05$). It is clear that, there is no statistically significant differences among the study subjects in relation to threat of severe illness, while there is a highly statistically significant difference for each group of

the study subjects (surgical and medical) in relation to threat of severe illness (χ 12 = 53.25, P<0.05, χ 22= 30.0, P<0.05).

Statistical analysis of patients psychological responses obtained through numeric Pain Intensity Scale revealed that there is no statistically significant difference among the study subjects and also among each group of the study in relation to the intensity of the pain during venipuncture, naso-gastric intubation and urinary catheter insertion, except for moderate intensity of pain during urinary catheter insertion as it was a highly significant difference among the study subjects (χ2 = 6.0, P< 0.05) **table (7).**

Discussion:

The Discussion of data obtained from data analysis represented in two main sections

Section I: Patients' Physical Responses Observation Sheet (PPRsOS):

This section is interpreting findings related to patients' physical responses, including behavioral responses as well physiological responses.

Through observation of patient's behavioral responses, the majority of the study sample express grimacing during the insertion of the selected invasive procedures. Also, they vocalized pain through sighing, crying, and about one third of them vocalized pain through moaning (table4). These findings are consistent with ***Pasero, (1998)*** study findings about procedural pain management which revealed that, overt physical signs, such as facial grimacing and groaning can be signs of pain and may be included in procedural pain assessment. However, the absence of overt physical signs must not be interpreted as an absence of pain.

As regards verbalization of pain, it is worth mentioning that the majority of the study sample did not verbalize their pain, while the minority of them verbalizes it during the insertion of the selected invasive procedures by praying (table 4). This was consistent with ***Linton and Maebius (2003),*** who stated that some patients may pray and believe that divine intervention will help them to endure the pain. From the researcher point of view, there are many factors that affect verbalization of pain as age, culture, gender, and personality traits. This goes on line with ***Sinatra, Hord, Ginsberg and Preble (1992),*** who emphasized that advancing age typically, alters patient's response to pain, reaction to pain is a conditioned behavior that reflects the values of a given culture. Also, they reviewed that female patients rated their pain as being "more intense" as opposed to their male counterparts. They added that highly aggressive and angry patients also tend to verbalize pain more than others. These findings were consistent with ***Potter and Perry (1997)*** who identified that, when a patient has pain, the nurse assesses

verbalization, vocal response, facial and body movements, and social interaction. They clarified that, a verbal report of pain is vital part of assessment and that the nurse must be willing to listen and understand. Groaning and Crying are examples of vocalization used to express pain. Certain vocalizations may be involuntary and may occur without warning when acute pain occurs.

In the present study patients did not show any body action as almost all of them stayed immobile and were unable to follow any direction while the invasive procedure were performed (table 4). Similar finding was detected in ***Schull, (1996)*** study about the performance of nursing procedure which revealed that most of the patients keep silence and immobile during the performance of medical procedure.

As regards physiologic responses of the present study subjects, about two third of them had elevation in pulse and respiration measurements (table 5). This findings is consistent with that of Bowman ***(2001),*** which stated that tachycardia and tachypnea are symptoms which accompanied illness and invasive procedures. Vital signs are a quick and efficient way of monitoring a patient's condition or identifying problems and evaluating the patient's response to intervention.

Considering other variables of physiologic response, the majority of the study sample had no sweating, cold clammy skin, pupil dilatation, flushing, Pallor and muscle tension. In addition to that, they had no nausea, Vomiting and abdominal distension (table 5). These findings were inconsistent with ***WHO, (1992)*** classification of symptoms that accompanied illness, which involve autonomic overactivity (sweating, epigastric discomfort, dizziness, dry mouth, etc.).

Section 2: Patients' Psychological Responses Sheet (PPRsS):

This section is interpreting findings related to patients' psychological responses, including lack of information, unfamiliarity of surroundings isolation from other people, threat of severe illness and numeric pain intensity scale.

In the current study, the whole sample stated that, they were told about the procedure they will be exposed to, but the majority of them reported that they were lacking information about its causes, and two thirds of them mentioned that they were not informed about the probable complications of this invasive procedure. This was supported by findings of ***Bowman (2001)*** study which revealed that emotional reaction is dependent on information specifically, lack of information is thought to

cause difficulty for the patient in organizing himself appropriately; resulting in negative emotions. Moreover, ***Daniels, (2004)*** stated that patients teaching about the procedure expectations and insertion methods can often allay patients fears and lead to more successful cooperation and pain management, especially in those patients who do not have previous experience to such procedure or who have memories of a previous devastating pain experience that they do not wish to repeat.

Almost all of the current study sample mentioned that, their questions about the procedure were not answered. More than half of them stated that they were not informed when the procedure will be done to them, about one-third of them were not told how to deal with things fixed to their bodies (table 8). This study results were supported by ***Hashem (1996)*** findings, which revealed that preparatory information given prior to life threatening and invasive procedures buffers stress, reduces level of anxiety, and reduces the amount of tranquilizer required during the procedure. Also, this goes in consistence with ***Linton and Maebius (2003),*** who reported that to help reduce patient's stress and anxiety level, patients must be given the information they need to be active participants. They want to know what is going to be done to them, when, how, and why. This goes in agreement with ***Cupples, (1991)*** study about the effects of timing and reinforcement of preoperative education on knowledge and recovery of patients having coronary artery bypass graft surgery. His study findings revealed that, post admission preoperative and pre-procedure education could result in better understanding more positive mood states, and more favorable physiologic recovery.

A relatively high percentage of the study sample stated that they were not annoyed when the staff is in too much of a hurry, and also about one third of them felt that they want to burst in tears at time of the procedure (table 6). ***Daniels, (2004)*** identified that patients who trust their nurses to be there, to listen, and to act, are the patients who are most likely to be comfortable. Consistent with the present study findings, ***Smeltzer and Bare, (1996)*** emphasized that patient experiences pain, anguish, and acute sadness, crying or the desire to cry is common and often elicits support from others. Furthermore, they focused on that many people can not allow themselves to cry in public and need privacy to handle their grief.

Considering threat of severe illness, the study findings revealed that, almost all of the study sample fear of failed insertion of the selected invasive procedures, and also almost all of them saw that the procedures might increase their suffering (table 6). This result was supported by the

findings of ***Porter (1995),*** who emphasized that, procedures that are physically or psychologically invasive, prevent verbal communication, and restrict movement so, they are among the most distressing procedures.
In relation to study findings about the Numeric Pain Intensity, all the study subjects indicated that all the selected invasive procedures are painful. The intensity of pain associated with such procedures was predominantly more severe in female than in male patients except in relation to pain associated with urinary catheter insertion i.e. male patients reported that it is a severe painful procedure (table 7).

The possible factor that may have relevance to this finding is the male urethra is about 20 cm long while the female urethra is about 3.5 to 6.5 cm. long and that a male patient may also have an enlarged prostate. This study findings was supported by Vallerand ***and Polomano (2000), and Garvin, et al., (2003)*** study findings. The first study was done about the relationship of gender to pain, which revealed that women tend to have "lower pain thresholds, a greater ability to discriminate painful sensations, higher pain rating and lower tolerance for pain". The second study was about the effects of gender and preference for information and control on anxiety early after myocardial infarction which revealed that female patients were more anxious than male patients in the first 48 hours after admission to the hospital.

Conclusion:

In an attempt to clarify the different responses of the patient to selected invasive procedures, the present study was aiming at identifying patient's responses to selected invasive procedures in medical and surgical wards. In order to attain the purpose of this study an exploratory descriptive research design was used. This study highlights the fact that patients are missing the sense of control over their environment, and patients experience pain differently during the insertion of the selected invasive procedures as well react to pain with a variety of physiological, behavioral and psychological responses. Health team member have no time to inform the patient about the invasive procedure, its causes and probable complications and have no time for providing descriptions of sensations or feelings that may accompany the procedure.

Based on the results of the present study, it can be concluded that, patients in the study were lacking the knowledge regarding invasive procedures, which may affect the cooperation and coping of the patients. It was evident from the findings that there was performance deficit in relation to the invasive procedures in areas as; patient preparation before procedure,

follow up of the procedures after insertion, answering the patients questions and ensuring patients' privacy and dignity.

Implications

Based upon the findings of the present study, the following implications and suggestions may help to assure competent nursing care and patients coping:

- Being patient and listening to the patient is a primary role of the nurse.
- The patient has the right to be informed about the procedure, it's purpose, causes, probable complications for assessing, managing pain and anxiety during and after the procedure, maintaining cooperation during the procedure, and for a prompt, safe, recovery from the effects of the procedure.
- Nurses should be aware that every patient experiences procedural pain differently and reacts to pain with a variety of physiological and behavioral responses that can assist patient to cope with these pain. So, education of nurses regarding patient responses and perception of stress related to illness and invasive procedures needs to be addressed.
- Nurses should help the patient to be fully familiarized with the hospital environment, and take time to orient the patient to the hospital's schedule for nursing routines and introduce the patient to roommates, it reduce the stress to which the patient is exposed.
- Nurse's sensitivity to patient's stress related to the invasive procedures reduces the risk of depersonalizing the patient. Also, patients who trust their nurses to be there, to listen, and to act, are the patients who are most likely to be comfortable.

Recommendations:

- Replication of the study on a larger probability sample and in different hospital settings for generalization of results.
- Studies should be done to correlate responses and sociodemographic data.
- Replication is recommended to be on a each gender separately to identify differences in their responses.

Table (1): Frequency and percentage distribution of the study subjects as regard past and current exposure to the insertion of the selected invasive procedure (n = 100)

Subjects exposure to the selected invasive procedure	Surgical group (n = 50)		Medical group (n = 50)		Total 100	
	N	%	n	%	n	%
Current exposure:						
Venipuncture	32	64	29	58	61	61
Naso-gastric intubation	1 0	20	8	16	18	18
Urinary catheter insertion	8	16	13	26	21	21
Past exposure:						
No exposure	21	41.1	11	17.5	32	28.1
Venipuncture	28	54.9	26	41.3	54	47.4
Urinary catheter	0	0	07	11.1	07	6.1
Naso-gastric intubation	01	02	06	9.5	07	6.1
*More than one procedure	01	02	13	20.6	14	12.3
**Total	51	100	63	100	114	100

* *Combination between two of these selected invasive procedures.*
*** Responses are not mutually exclusive.*

Table (2): Comparison between pre and post procedure vital signs of the study subjects (n = 100)

Vital signs	Elevation				Decrease				No change				χ^2	P> 0.05
	Surgical		Medical		Surgical		Medical		Surgical		Medical			
	N	%	N	%	n	%	N	%	n	%	n	%		
Temperature	25	50	12	24	17	34	17	34	08	16	21	42	10.38	H.S
Pulse	43	86	40	80	04	08	03	06	03	06	07	14	1.84	N.S
Respiration	37	74	31	62	07	14	06	12	6	12	13	26	3.16	N.S
Systolic B.P	21	42	20	40	03	06	03	06	26	52	27	54	0.04	N.S
Diastolic B.P	18	36	18	36	10	20	02	04	22	44	30	60	6.54	H.S
χ 2, 4, 0.05	3.27, N.S.				7.59, N.S.				4.72, N.S.					

Table (3): Frequency and percentage distribution and chi–square among medical and surgical patients as regards behavioral responses of the study sample (n = 100).

Patient's Behavioral Responses	Surgical group (n = 50)				Medical group (n = 50)				χ^2	P> 0.05
	Present		Absent		Present		Absent			
	N	%	N	%	n	%	n	%		
Facial expressions:										
- Grimacing	38	76	12	24	32	64	18	36	1.7	N.S.
Facial tension	15	30	35	70	17	34	33	66	0.18	N.S.
Vocalization:										
- Moaning	16	32	34	68	20	40	30	60	0.7	N.S.
- Sighing	29	58	21	42	38	76	12	24	3.64	N.S.
- Crying	19	38	31	62	24	48	26	52	1.02	N.S.
Verbalization:										
- Praying	8	16	42	84	3	6	47	94	2.56	N.S.
- Counting	-	-	50	100	-	-	50	100	0.0	N.S.
Body actions:										
- Rocking	5	10	45	90	5	10	45	90	0.0	N.S.
- Restlessness	10	20	40	80	9	18	41	82	0.06	N.S.
Behaviors:										
- Massaging	25	50	25	50	21	42	29	58	0.64	N.S.
- Irritability	2	4	48	96	5	10	45	90	1.38	N.S.
- Sleep disturbance	-	-	50	100	-	-	50	100	0.0	N.S.
-Focus on equipment	22	44	28	56	22	44	28	56	0.0	N.S.
- Inability to follow Directions	46	92	4	8	41	82	9	18	2.2	N.S.
- Exaggerate startle Response	8	16	42	84	8	16	42	84	0.0	N.S.
-Increased immobility	21	42	29	58	26	52	24	48	1.02	N.S.
- Constant seeking of reassurance	1	2	49	98	1	2	49	98	0.0	N.S.

Table (4): Chi–square among medical and surgical patients as regards patient's behavioral response variables (n =100)

Subjects behavioral responses	Surgical group (n = 50)		Medical group (n = 50)	
	Present N	Absent n	Present n	Absent n
Facial expression: Grimacing	38	12	32	18
Facial tension	15	35	17	33
Total	53	47	49	51
$\chi 2$, 1, 0.05	21.24 *		8.98 *	
Vocalization: Moaning	16	34	20	30
Sighing	29	21	38	12
Crying	19	31	24	26
Total	64	86	82	68
$\chi 2$, 2, 0.05	7.61 *		14.43 *	
Verbalization: Praying	08	42	03	47
Counting	-	50	-	50
Total	08	92	03	97
$\chi 2$, 1, 0.05	8.70 *		3.1	
Body action: Rocking	05	45	05	45
Restlessness	10	40	09	41
Total	15	85	14	86
$\chi 2$ 1, 0.05	1.96		1.32	

* *Highly significant at 0.05*

Cont. Table (4): Chi–square among surgical and medical patients as regards patient's behavioral response variables (n =100)

Subjects behavioral Responses	Surgical group (n = 50)		Medical group (n = 50)	
	Present N	Absent n	Present n	Absent n
Massaging	25	25	21	29
Irritability	02	48	05	45
Sleep disturbances	-	50	-	50
Focus on equipment	22	28	22	28
Inability to follow directions	46	04	41	09
Exaggeration startle response	08	42	08	42
Increased immobility	21	29	26	24
Constant seeking of reassurance	01	49	01	49
** Total = 400	125	276	124	276
$\chi 2$, 7,0.05	166.02 *		136.36 *	

** Highly significant at 0.05*

*** Responses are not mutually exclusive as there is more than one response.*

Table (5): Frequency, percentage distribution and chi–square among surgical and medical patients as regards physiologic responses (n = 100)

Patients Physiological responses variables	Surgical group (n = 50)				Medical group (n = 50)				χ 2	P> 0.05
	Present		Absent		Present		Absent			
	n	%	n	%	N	%	n	%		
-Diaphoresis (sweating)	10	20	40	80	20	40	30	60	4.47	Sig.
-Cold clammy skin	11	22	39	78	14	28	36	72	0.48	N.S.
-Increased systolic & diastolic B.P.	21	42	29	58	15	30	35	70	1.56	N.S.
- Increased pulse rate (> 100 b/min)	18	36	32	64	18	36	32	64	0.0	N.S.
-Change in respiration rate (usually increased > 20 breaths/min)	21	42	29	58	22	44	28	56	0.026	N.S.
- Pupil dilatation	17	34	33	66	18	36	32	64	0.02	N.S.
- Flushing	3	6	47	94	9	18	41	82	3.4	N.S.
- Pallor	3	6	47	94	4	8	46	92	0.14	N.S.
- Muscle tension or spasm	-	-	50	100	-	-	50	100	0.0	N.S.
- Nausea	6	12	44	88	8	16	42	84	0.32	N.S.
- Vomiting	9	18	41	82	5	10	45	90	1.32	N.S.
-Abdominal distention	-	-	50	100	-	-	50	100	0.0	N.S.
χ 2, 11, 0.05	84.51 *				76.99*					

** Highly significant at 0.05*

Table (6): Frequency , percentage distribution and chi- square among medical and surgical patients as regards patient's psychological responses variables (n = 100)

Patient's psychological responses Variables	Surgical group (n = 50)				Medical group (n = 50)				χ^2	P> 0.05
	Yes		No		Yes		No			
	n	%	n	%	n	%	n	%		
Lack of information about:										
- Being told what is the procedure.	50	100	-	-	50	100	-	-	0.0	N.S.
- Not having information about the purposes.	40	80	10	20	39	78	11	22	0.04	N.S.
- Not having information about the probable Complications.	35	70	15	30	31	62	19	38	0.72	N.S.
- Not having your questions answered.	49	98	1	2	49	98	1	2	0.0	N.S.
- Having thought of pain related to the procedure.	20	40	30	60	22	44	28	56	0.16	N.S.
- Not knowing when procedure to be done.	19	38	31	62	32	64	18	36	6.8	H.S.
- Nurses or doctors using words you can't understand.	9	18	41	82	7	14	43	86	0.3	N.S.
- Not told how to deal with things fixed to your body.	27	54	23	46	19	38	31	62	2.6	N.S.
χ 2, 7, 0.05	131.58*				131, 93*					
Unfamiliarity of surroundings:										
- Having strange machines around.	-	-	50	100	-	-	50	100	0.0	N.S.
- Being awakened at night by the nurse.	1	2	49	98	13	26	37	74	11.88	H.S.
- Presence of strange persons during the procedure.	34	68	16	32	37	74	13	26	0.44	N.S.
χ 2, , 0.05	**85.7***				**63.67***					

Cont. Table (6): Frequency , percentage distribution and chi- square among medical and surgical patients as regards patient's psychological responses variables (n = 100)

Patient's psychological responses Variables	Surgical group (n = 50)				Medical group (n = 50)				χ^2	P> 0.05
	Yes		No		Yes		No			
	n	%	N	%	n	%	n	%		
Isolation from other people:										
- The staff in too much of a hurry.	13	26	37	74	19	38	31	62	1.8	N.S.
- No observation after the procedure.	49	98	1	2	47	94	3	6	1.04	N.S.
- Feeling you want to burst in tears at time of procedure.	18	36	32	64	18	36	32	64	0.0	N.S.
χ 2, , 0.05	61.1*				44.0*					
Threat of severe illness:										
- Sudden insertion of procedure you do not expect to have.	22	44	28	56	27	54	23	46	1.1	N.S
- Fear of failed insertion.	49	98	01	02	46	92	04	08	1.9	N.S
- Procedures might increase suffering.	46	92	04	08	44	88	06	12	0.4	N.S
- Procedures might hinder life practice.	41	82	09	18	44	88	06	12	0.7	N.S
χ 2,,3, 0.05	**53.25 ***				**30.0***					

* *Highly significant at 0.05*

Table (7): Frequency, percentage distribution and chi-square among medical group (n = 8) and surgical group (n = 13) as regards Pain Intensity Scale by gender with the urinary catheter insertion:

Pain Intensity & Gender	Surgical group		Medical group		Total		χ^2	P> 0.05
	n	%	N	%	n	%		
Mild (2 <4)								
Male	0	0	0	0	0	0	0.0	N.S.
Female	0	0	0	0	0	0		
Moderate (4 <6)								
Male	5	62.5	1	7.7	6	28.5	6.0	H.S
Female	1	12.5	6	46.2	7	33.3	0	
Severe (6 <8)								
Male	2	25	3	23	5	23.8	0.51	N.S.
Female	0	0	1	7.7	1	4.8		
Very severe (8 – 10)								
Male	0	0	1	7.7	1	4.8	0.0	N.S.
Female	0	0	1	7.7	1	4.8	0	
Total =	8	100	13	100	21	100		
χ^2, 3, 0.05	0.39 N.S.		4.25 N.S.					

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الملخص العربي

استجابة المرضى لبعض المهارات العلاجية التي تخترق الجسم بأقسام الجراحة والباطنة بمستشفى المنيل الجامعي

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المقدمة :
تعتبر استجابة المريض وردود أفعاله تجاه المهارات العلاجية التي تختـرق جـسمه ذات أهميـة قصوى في مساعدة المريض على التكيف مع هذه المهارات، كذلك يعتبر التعرف على أهداف هذه المهارات وأسباب استخدامها من الخطوات الأولية في تحمل المريض للألم الناتج عنهـا وتقليـل القلق والخوف المصاحب لها، وكذلك الحصول على معاونة المريض و مساعدته أثناء إجراء هذه المهارات. ولما كانت معظم المصادر البحثية تهتم فقط بدراسة الجانب الفني للمهارات والتـدريب على اكتساب المهارات التمريضية وتحسين الأداء التمريضي بغض النظر عن استجابة المـريض لهذه المهارات والاهتمام بردود افعاله مما يؤثر بالسلب على المريض وتعاونه أثناء إجراء هـذه المهارات العلاجية ولهذا تم إجراء هذا البحث بهدف التعرف على استجابات المـريض لـبعض المهارات العلاجية المختارة التي تخترق جسمه حتى يتسنى للممرضة التعرف عليها والحـصول على معاونة المريض وتكيفه مع هذه المهارات وتحمل المريض للألم الناتج عنها.

الهدف من البحث :
الهدف من الدراسة التعرف على استجابة المريض الجسمية و النفسية لبعض المهارات التمريضية المختارة التي تخترق جسمه وهى (اختراق الوريد، وإدخال أنبوبة معدية (رايل) وتركيب قسطرة بولية بأقسام الجراحة والباطنة.

عينة البحث :
تتكون عينة البحث من ١٠٠ (مائة) مريض تم اختيارهم من أقسام الجـراحة والباطنة (٥٠ لكل) بمستشفى المنيل الجامعي والذين يتعرضون لإدخال هذه المهارات بجسمهم .

الأدوات التي استخدمت في جمع البيانات :
تم استخدام ثلاثة أدوات في جمع البيانات الخاصة بهذا البحث وهى:
١: معلومات خاصة بالخلفية الاجتماعية والصحية للمريض وتشمل:
أ- معلومات عن المريض مثل النوع، السن، الحالة الاجتماعية، الوظيفة، مـستوى التعلـيم والدخل الشهري
ب-بعض المعايير الطبية مثل عدد مرات التعرض لإدخال هذه المهارات المختارة من قبـل، كذلك العلامات الحيوية الأولية للمريض.
٢: مقياس خاص بملاحظة الاستجابات الجسمية للمريض وتمثل:
أ- استجابات سلوكية مثل تعبيرات الوجه، تعبيرات لفظية، تعبيرات كلامية، وكذلك حركات الجسم وتصرف المريض أثناء إدخال هذه المهارات المختارة.

ب- استجابات أعضاء الجسم الحيوية كالعرق وارتفاع الضغط وزيادة سرعة التنفس وزيـادة النبض وغيرها

٣: مقياس لاستجابات المريض النفسية وتشمل:

أ- أسئلة خاصة بمعلومات المريض عن المهارات التي سيتعرض لها وأسباب اللجوء إليهـا وكذلك أسئلة خاصة بتكيف المريض مع البيئة المحيطة به، شعور المريض بالعزلة عـن الآخرين أثناء إجراء المهارة والشعور بتفاقم المرض.

ب- مقياس خاص بالرقم الذي يعبر عن شدة شعور المريض بالألم أثنـاء إجـراء المهـارة العلاجية

وقد تمت ملاحظة المريض أثناء إجراء المهارة التمريضية لاستيفاء البيانات الاجتماعيـة لـه وكذلك مقياس الاستجابات النفسية للمريض بعد شرح أهمية البحث وهدفه.

نتائج البحث :

أسفرت الدراسة عن النتائج الآتية:

- تعرض أغلبية المرضى (٥٣%) الخاضعين للدراسة لارتفاع في العلامات الحيوية عقب إجراء المهارة
- أظهرت الدراسة للنتائج الخاصة بمقياس الاستجابات الجسمية للمريض أن أغلبية المرضى (٧٠%) يعبرون عن ألمهم بإظهار العبوس في الوجه ومعظمهم يتلفظون بالألم عن طريق التنهد ثم الصراخ ثم الأنين (٦٧%، ٤٣%، ٣٦% على التوالي) ومن الجدير بالـذكر أن معظم عينة البحث لم تتلفظ بأي ألفاظ كلامية أثناء الإجراء وكذلك حـافظوا علـى عـدم الحركة أثناء إجراء المهارة.
- وبالنسبة للاستجابات الخاصة بأعضاء الجسم الحيوية كانت هناك زيادة في معدل التنفس (٤٣%) يليه زيادة في ضغط الدم وزيادة النبض عند حوالي ثلث عينة البحث.
- أظهرت الدراسة بالنسبة للنتائج الخاصة بمقياس الاستجابات النفسية للمريض أن كل عينة البحث قد تم إخبارهم بعمل المهارة في وقت عملها ولكن معظمهم (٧٩%) ذكر انهم لـم يعرفوا أسباب عمل هذه المهارة أو المضاعفات التي قد تنتج عنها (٦٦%) وتقريبا كـل العينة (٩٨%) ذكرت أن أسئلتهم حول المهارة التي سيتعرضون لها لم تلقى أي إجابـة. كما ذكرت معظم عينة البحث (٧١%) انهم يصابون بالقلق عند عمل المهارة في وجـود أشخاص غرباء وتقريبا كل عينة البحث ذكرت انه لا يوجد متابعة للمهارة من القـائمين بعمل الرعاية التمريضية بعد عملها (٩٦%) وكذلك كلهم تقريبا (٩٥%) يخـشون مـن الإدخال الخاطئ للمهارة وكذلك فإن معظمهم (٩٠%) يرون أن هذه المهارة تزيـد مـن معاناتهم وتعوق قدرتهم على ممارسة حياتهم (٨٥%).
- أما بالنسبة لمقياس شدة الألم أثناء عمل الإجراء كما ذكرت المرضى وأجمعت كل عينـة البحث من الرجال والسيدات على أن كل المهارات التمريضية المختارة (اختراق الوريد، إدخال الأنبوبة المعدية، وتركيب القسطرة البولية) مؤلمة وكانت نسبة الشعور بالألم عنـد عينة البحث من السيدات شديدة عنها عند عينة البحث من الرجال فيما عدا الألـم الـذي تسببه إدخال القسطرة البولية فإن شدة الألم عند عينة البحث من الرجال اكثر منهـا عنـد السيدات.

الخلاصة:

انتهت الدراسة إلى أن:

من الصعب على المريض أن يتعرض لعمل إجراء تمريضي أو علاجي يخترق جسمه وكذلك فأن المريض داخل المستشفى لا يتحكم في البيئة المحيطة به ولا يمتلك أي قرار في رفض أو قبـول عمل هذا الإجراء الذي سوف يخترق جسمه كما أن استجابة كل مريض للألـم ورد فعلـه تجـاه تختلف من مريض إلى أخر سواء كانت هذه الاستجابة عضوية أو سلوكية أو نفسية.

وأيضا أثبتت نتائج الدراسة أن الممرضات لا يمتلكن الوقت الكافي لإخبار المريض عن الإجـراء التمريضي الذي سيخترق جسمه أو عن أسبابه أو مضاعفاته أو في وصف الإجراء والإحـساس الناتج عنة وكذلك لا يمتلكن الوقت لمتابعة هذا الإجراء بعد عملة وما قد ينتج عنة من أثار جانبية.

كما أن الممرضات يقمن بأداء هذه المهارات كإجراءات روتينية بالنسبة لعملهم و يجهل معظمهـم أن عمل هذه الإجراءات بالنسبة للمريض قد تكن جديدة وغير مألوفة بالنسبة له وقد تسبب له الألم و الخوف والقلق كما يتعامل معظمهم مع المريض كآلة وليس كإنـسان يحمـل جوانـب نفـسية وعضوية واجتماعية.

التوصيات:

بناءا على نتائج البحث تم التوصل إلى التوصيات الآتية:

- يقترح إعادة البحث على عينة أكثر عدد وفى أماكن مختلفة حتى يتسنى التوصل إلى نتائج اكثر تعميما
- يقترح إعادة البحث مع دراسة العلاقة بين استجابات المريض والخلفية الاجتماعية له
- يقترح إعادة البحث مع دراسة استجابات كل جنس من المرضى على حدة للتعرف علـى الفروق في استجابات كل منهما.

Work Empowerment and Job Satisfaction Among Nurses At Zagazig University Hospitals

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Abstract:

Today, nurses work empowerment and job satisfaction are vital to manage hospital changes effectively. Nurse manager must understand the social processes that affect empowerment and satisfaction to be sure that patient care and changes in nursing delivery system are implemented successfully. Since current restructuring strategies represent a continuous change in hospitals, so empowered and satisfied nurses can be an important factor for the acceptance of change, and increase productivity. The aim of this study was to investigate the level of work empowerment and level of job satisfaction among nurses, and explore the relationship between staff nurses' perception of work empowerment and their job satisfaction. The study was conducted in all medical and surgical units at Zagazig university hospitals. The sample included all staff nurses (270) working in the above mentioned setting, with at least one year experience in the present job. Tow tools were used for data collection, namely a questionnaire, the conditions for work effectiveness scale to determine staff nurses perception of empowerment, and a job satisfaction scale. The results revealed that about one half of the nurses in the study sample had effective conditions of work, and were empowered. Formal power was higher than informal power. Only about one third of the nurses were satisfied with their job, with the lowest satisfaction with promotion at work and salaries and incentives. Work department and the score of condition of work effectiveness were independent predictors of job satisfaction score. It is recommended that nurses be aware of and able to empower themselves through formal and informal education sessions, with provision of appropriate updated educational resources at work, and improvement of salaries and incentives.

Introduction

Empowerment is the delegation of power and providing employees at all levels the authority and responsibility to make decisions on their own. It enables workers to set their own goals, and solve problems within their sphere of responsibility ***(Donnelly et al, 1998)***. Empowerment refers to either psychological empowerment, focused largely on the individual self-efficacy, or organizational empowerment, focused on shared power and decision process ***(Plozin, 1991)***.

The goal of empowerment is to improve employees' self-efficacy, ability to cope with adversity, and willingness to act independently and responsibly. It improves productivity, lowers costs, raises customer satisfaction, reduces job strain, and improves nurses' work satisfaction ***(Huber, 1996)***.

Kanter (in: Laschinger et al, 2000) has indicated that the structures within organizations that should be considered important for growth of empowerment are: having access to information receiving, having access to resources necessary to do the job, and having the opportunity to learn and grow. Access to empowering structures include power characteristics in work and immediate managers' power ***(Tebit, 1993)***. Furthermore, ***Shortel and Kaluzny (2000)*** added that empowered environment is characterized by the customer being in the center and nurses work cooperatively together to do what is needed.

The access to empowering structures is influenced by the degree of formal and informal power nurses have in the hospital. Formal power evolves from having a job that affords flexibility, visibility, provider reorganization, and is relevant to key organizational processes. Also, it refers to the authority to get things done. Generally, the amount of formal power that individuals have is associated with their position in the organizational hierarchy. Informal power is derived from the development of alliances or relationships across departmental boundaries and with people external to the organization. These include relationships with influential others, peers, and subordinates. Nurses with formal and informal power are in a position to gain access to work structures that enable or empower them to accomplish their work ***(Laschinger et al, 2001)***.

The empowered environment is composed of three key dimensions. The first is the relationships dimension, which measures how much nurses relate to each others. The second is the personal growth dimension, which measures how the work environment encourages or satisfies personal growth. The third, system maintenance, is the dimension that measures the amount of structure and openness to change in the workplace ***(McNeese-Smith, 1997)***.

As for job satisfaction, it is the feeling an employee has about the job in general. It is a global construct including such aspects as satisfaction with work, supervision, pay, opportunities, and practices of the organization ***(McNeese-Smith, 1997)***. Job satisfaction is good not only for employees but also for employers; it increases productivity and decrease staff turnover ***(Syptace et al, 1999)***.

Employee's satisfaction depends on two dimension, hygiene factors and motivator factors. The former includes aspects as supervision, company policy, work condition, salary, and interpersonal relation. The latter, or motivator factors, involves achievement, recognition, work itself, responsibility, advancement, and growth ***(Herberg, 2000)***. Alternatively, ***Bavendam (2000)*** *has* classified the factors affecting job satisfaction into opportunity, stress, leadership, work standard, fair reward, and adequate authority.

The practice of empowering and satisfying nurses is often a principal component of management and hospital effectiveness. Both job empowerment factors and empowered work environment help nurses to be better as professionals, and would thus increase their job satisfaction ***(Tebit, 1993)***. The present study is an attempt to investigate the relation between staff nurses' perception of work empowerment and their job satisfaction at Zagazig university hospital.

Aim of the study

The aims of the study were to measure the level of work empowerment and of job satisfaction among staff nurses, and to investigate the relationship between staff nurses' perception of work empowerment and their job satisfaction.

Subjects and methods

Study setting

The study was conducted in all surgical and medical units at Zagazig university hospital.

Study design

A cross-sectional analytic research design was used, where both empowerment and job satisfaction were measured at the same time.

Subjects

All staff nurses employed at the foregoing units at Zagazig university hospital was eligible for inclusion in the study sample if they fulfilled the inclusion criterion of having a minimum one-year experience in the unit. This criterion was set in order that staff nurse be oriented of working conditions and be able to express opinion about work empowerment and job satisfaction. The total number was 270 nurses: 123 in medical units, and 147 in surgical units. They included 29 professional nurses (B.Sc. degree in nursing), 16 technical nurses, 198 secondary school diploma, 27 specialty diploma nurses.

Data collection tools

Tow tools were used for data collection, namely administered the job empowerment scale and a job satisfaction questionnaire.

- ***Self-administrated questionnaire***: intended to collect data about the demographic and job characteristics of staff nurses. These included age, nursing qualification, years of experience, marital status, and types of department.
- ***Job empowerment scale***: adapted from ***Laschinger et al (2001)*** and consists of three parts. The first part involves the conditions of work effectiveness questionnaire (CWEQ) used to measures staff nurses' perception of workplace empowerment. It included 12 statements: 3 for opportunity to learn and grow, 3 for access to information, 3 for receiving support, and 3 for access to nurses' resources necessary to do the job. The second part, the job activities scale (JAS), was used to measures nurses' perception of formal power in their current work setting. It included thee statements. The third part is the organizational relationship scale (ORS) used to measure nurses' perceptions of the informal power in their current work setting. It included four statements. Responses were measured on a five-point Likert scale graded from a lot (5 points) to none (1 point). For scoring of empowerment, for each part, the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score, and means and standard deviations were computed. The nurse was considered empowered if the percent score was 60% or more, and not if less than 60%.

- ***Job satisfaction scale***: adapted from ***Mohamed (2005)***, ***Ulmer (1999)***, and ***Swansburg (1996)***. It aimed at determining job satisfaction among studied nurses. The tool consisted of 89 statements divided into 9 categories. The responses were on a 3-point Likert scale “yes”, “uncertain”, and “no.” For scoring, these were respectively given 2, 1, and zero points. The scoring was reversed for negative statements. For each part, the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score, and means and standard deviations were computed. The nurse was considered satisfied if the percent score was 60% or more, and unsatisfied if less than 60%.

Study maneuver

Tools were translated into Arabic and tested for validity through experts’ opinions. Official agreement was obtained to collect the data from the staff nurses included in the study. A pilot study was conducted on ten

staff nurses working at Zagazig university hospitals to identify ambiguous question, and accordingly some changes were made. These subjects were not included in the main study. Data were collected through completing the tools by the staff nurses. This took of three months starting from October 2005.

Statistical analysis

Data entry was done using Epi-Info 6.04 computer software package, while statistical analysis was done using SPSS 11.0 statistical software packages. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations for quantitative variables. Qualitative variables were compared using chi-square test. Pearson correlation analysis was used for assessment of the inter-relationships among quantitative variables. To assess the relationship between scores of job satisfaction as dependent factors, on the one hand, and empowerment and various independent factors, on the other hand, multiple stepwise backward regression analysis was used, and analysis of variance for the full regression models were done. Statistical significance was considered at p-value <0.05.

Results

The study sample consisted of 270 staff nurses. Their personal characteristics are presented in table 1. They were mostly below 25 years of age (44.4%), and married (77.0%). The majority were nursing school diploma holders (73.4%). The highest percentage had experience of ten years or more (45.5%).

Table 2 describes the conditions of work effectiveness among staff nurses in the study sample. Among conditions of work effectiveness, the highest percentage of staff nurses had access to information (71.9%), whereas the lowest percentage had opportunity to grow (42.6%). Formal power was present among about two thirds (66.7%) of staff nurses, compared to only 39.9% having informal power. Overall, slightly more than half of the sample (53.3%) were empowered.

Concerning job satisfaction, as measured among staff nurses in the study sample, table 3 indicates that the highest percentage of nurses were

satisfied with policies (80.4%). On the contrary, the lowest percentages of satisfaction were related to work environment and salaries and incentives, 15.6% and 17.8%, respectively. Overall, only about one third of staff nurses (32.6%) were satisfied with their job.

The relation between job satisfaction and individual aspects of conditions of work effectiveness among nurses in the study sample is illustrated in table 4. It indicates statistically significant associations between the job satisfaction and all aspects of conditions of work effectiveness, with the only exception of access to information. In all these relations, empowered nurses with more effective conditions of work were more satisfied with their job.

Alternatively, table 5 displays the relation between conditions of work effectiveness and various domains of job satisfaction among staff nurses in the study sample. The table shows that almost all domains of job satisfaction have statistically significant relations with conditions of work effectiveness. The only exceptions were related to salaries and incentives, and promotion at work. Again, in all these relations, nurses more satisfied with their job had more conditions of work effectiveness.

Table 6 displays a correlation matrix among aspects of work effectiveness scores. It points to generally moderate positive statistically significant correlations among all aspects of work effectiveness scores ($p<0.05$). The strongest was that between access to opportunities and support ($r=0.65$), whilst the lowest was between informal power and access to information ($r=0.28$).

Similarly, table 7 indicates statistically significant weak to moderate positive correlations among the scores of various job satisfaction domains. The only exception was the lack of correlation between satisfaction with policies and psychological aspects ($r=0.01$). Conversely, the strongest correlation was between satisfaction with achievement at work and recognition ($r=0.66$).

Figure 1 illustrates the relationship between the scores of work effectiveness and job satisfaction. It indicates a moderate positive statistically significant correlation between work effectiveness and job satisfaction scores ($r=0.60$, $p<0.001$).

The best fitting multiple linear regression model for satisfaction scores among staff nurses is described in table 8. It shows that among all personal characteristics of nurses, only the work department was a statistically significant independent predictor of job satisfaction score, being higher in surgical compared to medical departments. Also, the score of conditions of work effectiveness was a statistically significant independent predictor of job satisfaction score. As indicated from the value of r-square, the model explains 38% of the job satisfaction score.

Discussion

The present study findings have indicated that total empowerment was present only among about half of the nurses in the study sample. This study result is consistent with ***Yacoub (2002)*** who has reported relatively low level of staff nurses' total empowerment as perceived by nurses at national heart institute.

Access to information was the component of conditions of work effectiveness reported to be present by the highest percentage of nurses in the present study, more than two thirds of the sample. This result is in contradiction with the result reported by ***El-Sayed et al. (2005)***, who has found that access to information is limited among nurses who work in intensive care units at Zagazig university hospital. The discrepancy between the two study results might be explained by easy in receiving the necessary information for nurses in the present study.

In this respect, ***El-Sayed and Saber (2002)*** have mentioned that the nurses at Mansoura university hospitals perceived the importance of the presence of nursing information system to provide the nurses with necessary knowledge for their nursing care, and had a positive contribution to work effectiveness to empower nurses. Moreover, ***Abdel-Satter (2002)*** has reported that nurses in the study were having access to information related to knowledge about activities which were done with competence. Also, according to ***Tantawy (2000),*** the nurse must possess knowledge in order to ensure her quality of care. In the same vein, ***Kanter (in Laschinger et al, 2000)*** has emphasized that work environments that provide access to information, resources, support and the opportunity to learn are empowering.

Meanwhile, according to the present study findings, formal power was reported to be present by more nurses, compared to informal power, about two thirds and one third, respectively. This result also disagrees with ***El-Sayed et al (2005)*** who have shown that informal power was perceived by staff nurses as more empowering factor than the formal power. The difference in the findings might be attributed to difference in the work place. Meanwhile, ***Kanter (in: Laschinger et al, 2000)*** has signaled the importance of both types of powers, and mentioned that personnel who have access to informal and formal power characteristics in the work environment may become active to participate in decisions related to their Work, are independent, and are encouraged in unit activities without fear. Moreover, where nurses have access to formal and informal powers, this is related to access to empowerment structure ***(Kanter, 1993; Dick, 2004)***.

Concerning job satisfaction, the present study revealed that, overall, only less than one third of the nurses in the sample were satisfied with their job. The finding is in congruence with ***Mohamed (2005)*** who has reported that less than one third of head nurses were satisfied with their job in Zagazig university hospital. On the same line, ***Abd El-Hamied (2002)*** has found that more than half of nurses in the previous setting were not overall satisfied with their job. Conversely, ***Collins et al (2000),*** in their study of the views of 452 nurses and 162 professionals allied to medicine on job satisfaction, have shown a high level of job satisfaction in both groups, nurses and professionals allied to medicine. The similarities among various local studies might be attributed to similar nursing work environments in various local healthcare settings. This also explains the difference between these local studies, and the present one, and that of ***Collins et al (2000)***, where the differences in work settings might play a major role in job satisfaction.

The lowest percentage of job satisfaction among nurses in the present was related to promotion at work and salaries and incentives. This result is consistent with ***Abd El-Hamied (2000),*** who has similarly found that the majority of the sample nurses were dissatisfied with their salaries. A similar finding was also reported by ***Chung Park (1998)***, where the majority of the study sample of US navy nurses was not satisfied with their salaries. Therefore, improvement of salaries and benefits are recommended as strategies to improve the overall job satisfaction among nurses ***(Buser, 2000)***.

The results of the present study have also revealed a statistically significant positive correlation between job satisfaction and conditions of work effectiveness scores. Moreover, in multivariate analysis, the score of conditions of work effectiveness was a statistically significant independent predictor of job satisfaction score. The finding is in congruence with ***Spence Lashinger and Sullivan (1997)***, who have also added that lack of opportunity in any form contributes to negative occupational stress, and limits improvement from within. On the same line, ***Fletcher (2001)*** has also reported a strong positive relationship between empowerment and job satisfaction. Also, ***Kanter (in: Laschinger et al, 2000)*** has indicated that employees who work in an environment with higher level of empowerment have reported greater work satisfaction. Moreover, ***Shader et al (2001)*** have revealed that a strong positive relationship between nurses access to opportunity and information, resources, and support power in one's position and perception of job satisfaction.

According to the present study, the work department turned to be a statistically significant independent predictor of the score of job satisfaction. Nurses in surgical departments were shown to be more satisfied with their work, compared to those in medical departments. This might be explained by the versatility and challenges of the work in surgical departments, which although more tiresome, might be more challenging, with a more sense of achievement.

Concerning the factors affecting perception of empowerment, the present study could not find a statistically significant association between condition of work effectiveness scores and age. In congruence with this finding, ***El-Sayed et al, (2005)*** could not find any correlation between job empowerment and nurses' age. These results are, however, in disagreement with the result of ***Abdel Al (1999)*** who has mentioned that nurses at Alexandria main university hospital are more empowered as they grow older. Moreover, ***McDermott et al. (1996)*** have reported that as age increases, staff nurses perceive more power, opportunities, recognition, and have more access to challenging work, which gives them empowering behavior as well as job empowerment. This has been attributed to the fact that with increase in age, nurses become more knowledgeable and adept in accessing the sources of power, resources, information, support, opportunity.

Conclusion and recommendations

In conclusion, overall about one half of the nurses in the study sample had effective conditions of work, and was empowered. Formal power was higher than informal power. Also, only about one third of the nurses were satisfied with their job, with the lowest percentage of satisfaction with promotion at work and salaries and incentives. Work department and the score of condition of work effectiveness turned to be independent predictors of job satisfaction score.

In the light of the foregoing, the following recommendations are proposed:

- Nurses should be aware of and be able to empower themselves through formal and informal education sessions on problem-solving, decentralized decision-making, and effective communication
- Provision of appropriate updated educational resources at work, and opportunities for attendance of workshops as needs for continuing nursing education are recommended
- Improvement of nurses salaries and incentives is an urgent need to improve job satisfaction

- Encouragement of research dealing with factors that increase job satisfaction among nurses.

Table (1): Socio-demographic and job characteristics of nurses in the study sample (n=270)

	Frequency	Percent
Age (years):		
<25	120	44.4
25-	100	37.0
35+	50	18.5
Nursing qualification:		
Bachelor of nursing	29	10.7
Technical institute diploma	16	5.9
Secondary nursing school diploma	198	73.4
Specialty diploma	27	10.0
Experience years:		
<5	96	35.6
5-	51	18.9
10+	123	45.5
Department:		
Medical	123	45.6
Surgical	147	54.4
Marital status:		
Single	55	20.4
Married	208	77.0
Widow	7	2.6

Table (2): Conditions of work effectiveness among nurses in the study sample (n=270)

Have (60%+):	Frequency	Percent
Access to information	194	71.9
Access to support	154	57.0
Access to resources	166	61.5
Access to opportunities	115	42.6
Total empowerment	144	53.3
Informal power (Job Activities Scale)	105	38.9
Formal power (Organizational Relationships Scale)	180	66.7
Total conditions of work effectiveness	132	48.9

Table (3): Job satisfaction among nurses in the study sample (n=270)

Satisfied with (60%+):	Frequency	Percent
Policies	217	80.4
Supervision	160	59.3
Salaries and incentives	48	17.8
Work relations	173	64.1
Work environment	42	15.6
Work system	150	55.6
Achievement at work	163	60.4
Recognition	106	39.3
Responsibilities	89	33.0
Promotion at work	82	30.4
Psychological aspects	175	64.8
Job security	81	30.0
Administration	64	23.7
Total job satisfaction	88	32.6

Table (4): Relation between job satisfaction and aspects of conditions of work effectiveness among nurses in the study sample

Have (60%+)	Job satisfaction				X^2	p-value
	Present (60%+)		Absent (<60%)			
	No.	%	No.	%		
Access to information	65	73.9	129	70.9	0.26	0.61
Access to support	67	76.1	87	47.8	19.43	<0.001*
Access to resources	72	81.8	94	51.6	22.80	<0.001*
Access to opportunities	69	65.9	57	31.3	29.03	<0.001*
Total empowerment	70	79.5	74	40.7	36.04	<0.001*
Informal power (Job Activities Scale)	55	62.5	50	27.5	30.62	<0.001*
Formal power (Organizational Relationships Scale)	74	84.1	106	58.2	17.84	<0.001*
Total conditions of work effectiveness	67	76.1	65	35.7	38.79	<0.001*

(*) Statistically significant at p<0.05

Table (5): Relation between conditions of work effectiveness and domains of job satisfaction among nurses in the study sample

Satisfied (60%+) with:	Conditions of work effectiveness				X^2	p-value
	Present (60%+)		Absent (<60%)			
	No.	%	No.	%		
Policies	122	92.4	95	68.8	23.79	<0.001*
Supervision	101	76.5	59	42.8	31.85	<0.001*
Salaries and incentives	29	22.0	19	13.8	3.10	0.08
Work relations	106	80.3	67	48.6	29.55	<0.001*
Work environment	31	23.5	11	8.0	12.36	<0.001*
Work system	88	66.7	62	44.9	12.91	<0.001*
Achievement at work	102	77.3	61	44.2	30.84	<0.001*
Recognition	77	58.3	29	21.0	39.40	<0.001*
Responsibilities	53	40.2	36	26.1	6.04	0.01*
Promotion at work	46	34.8	36	26.1	2.45	0.12
Psychological aspects	95	72.0	80	58.0	5.80	0.02*
Job security	57	43.2	24	17.4	21.37	<0.001*
Administration	44	33.3	20	14.5	13.24	<0.001*
Total job satisfaction	67	50.8	21	15.2	38.79	<0.001*

(*) Statistically significant at p<0.05

Table (6): Correlation matrix among aspects of work effectiveness scores

	Access to information	Access to support	Access to resources	Access to opportunities	JAS
Access to support	0.41*				
Access to resources	0.34*	0.57*			
Access to opportunities	0.38*	0.65*	0.59*		
Informal power (JAS)	0.28*	0.55*	0.47*	0.57*	
Formal power (ORS)	0.44*	0.62*	0.58*	0.59*	0.53*

(*) Statistically significant at p<0.0

Table (7): Correlation matrix among scores of job satisfaction domains

	1	2	3	4	5	6	7	8	9	10	11	12
2	0.48*											
3	0.24*	0.37*										
4	0.45*	0.60*	0.32*									
5	0.27*	0.47*	0.42*	0.56*								
6	0.38*	0.48*	0.32*	0.56*	0.45*							
7	0.39*	0.50*	0.37*	0.61*	0.51*	0.56*						
8	0.36*	0.44*	0.43*	0.57*	0.51*	0.50*	0.66*					
9	0.22*	0.42*	0.25*	0.44*	0.49*	0.50*	0.41*	0.49*				
10	0.33*	0.31*	0.34*	0.52*	0.44*	0.45*	0.58*	0.55*	0.42*			
11	0.01	0.20*	0.21*	0.33*	0.32*	0.26*	0.37*	0.35*	0.33*	0.27*		
12	0.35*	0.41*	0.37*	0.48*	0.59*	0.42*	0.47*	0.47*	0.42*	0.58*	0.31*	
13	0.36*	0.54*	0.32*	0.54*	0.47*	0.49*	0.53*	0.48*	0.40*	0.48*	0.17*	0.47*

(*) Statistically significant at $p<0.05$

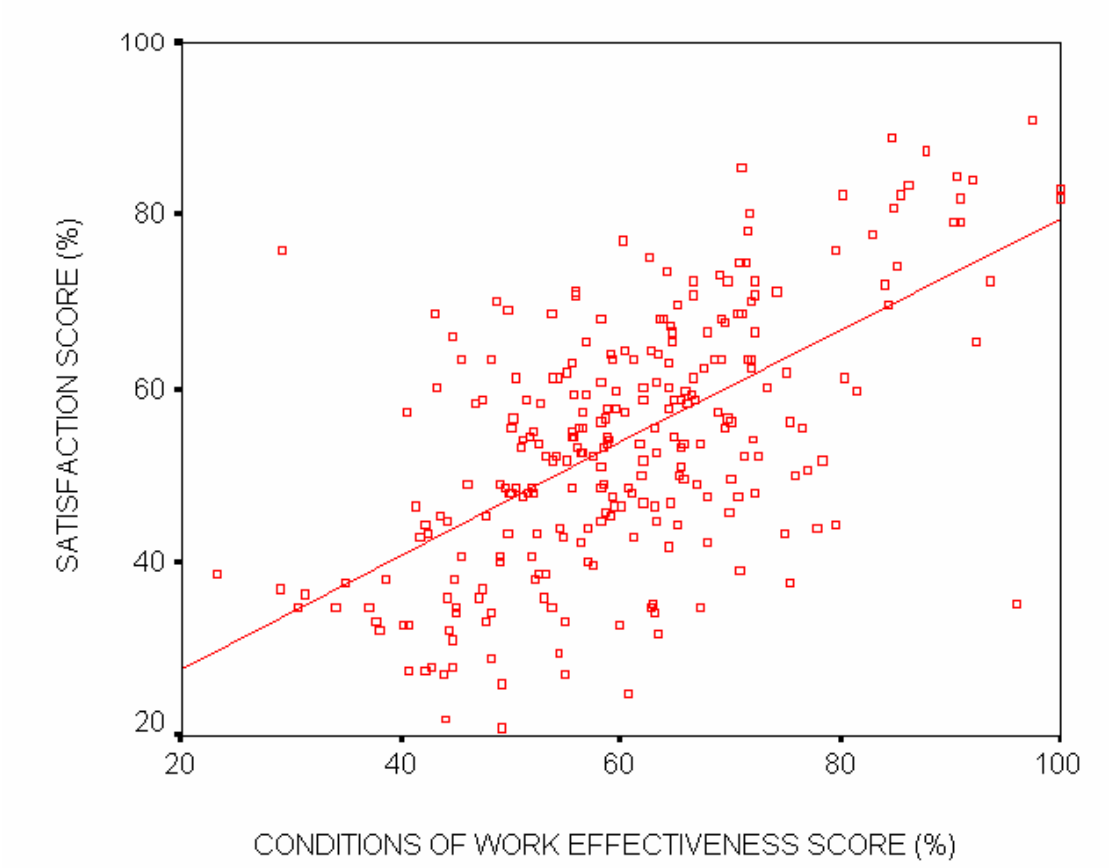
1. Policies
2. Supervision
3. Salaries and incentives
4. Work relations
5. Work environment
6. Work system
7. Achievement at work
8. Recognition
9. Responsibilities
10. Promotion at work
11. Psychological aspects
12. Job security
13. Administration

Table (8): Best fitting multiple linear regressions model for satisfaction scores among nurse managers' and their personal characteristics and the scores of conditions of work effectiveness

	Beta coefficient	Standard error	t-test	p-value
Constant	11.82	4.06	2.91	0.004*
Department (medical=0, surgical=1)	3.76	1.39	2.70	0.007*
Conditions of work effectiveness (score)	0.65	0.05	12.58	<0.001*

r-square=0.38
Model ANOVA: 56.21, p<0.001
Variables excluded by model: age, experience years, marital status, nursing qualification

Figure (1): Scatter plot and simple regression line between work effectiveness and job satisfaction scores



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لملخص العربي

التمكين الوظيفي مقابل الرضا الوظيفي بين الممرضات بمستشفيات جامعة الزقازيق

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مقدمة:
التمكين و الرضا الوظيفي من الأشياء الحيوية للتغيير الفعال للمستـشفي. يجـب علـي رئيـسة التمريض أن تتفهم العوامل الاجتماعية التي تؤثر في التمكين والرضا الوظيفي للتأكد من العناية التمريضية للمريض وتغيير الجهاز التمريضي بنجاح من اجل زيادة الإنتاج.

الهدف من البحث:
- قياس مستوى التمكين الوظيفي لدى الممرضات
- قياس مستوى الرضا الوظيفي لدى الممرضات
- فحص العلاقة بين مستوى التمكين الوظيفي والرضا الوظيفي لدى الممرضات

مكان الدراسة:
أجريت الدراسة في جميع أقسام الجراحة والباطنة التابعة لمستشفيات جامعة الزقازيق.

العينة:
تكونت عينة البحث من جميع الممرضـات العـاملات بأقـسام الجراحـة والباطنـة وعـددهن ٢٧٠ممرضة علي ألا تقل خبرتهن عن سنة في المكان التي تعمل به.

أدوات البحث:
- استمارة بيانات ديموجرافية للممرضات
- مقياس التمكين الوظيفي لدى الممرضات
- مقياس الرضا الوظيفي لدى الممرضات.

النتائج: أظهرت النتائج:
- وجود علاقة ذات دلالة إحصائية بين مستوي التمكين الوظيفي و الرضا الوظيفي لدى الممرضات
- وجود علاقة ذات دلالة إحصائية بين الرضا الوظيفي وفعالية ظروف العمـل ماعـدا الوصول إلي معلومات
- وجود علاقة ذات دلالة إحصائية بين فعالية ظروف العمل و جميع مكونات الرضـا الوظيفي ماعدا سياسة العمل وتحسين العمل والحوافز والمرتبات.

التوصيات:

بناء علي النتائج السابقة يوصي بالآتي:

- إمداد الممرضات بالمعلومات اللازمة للعمل
- عمل دورات وندوات لها علاقة بالعمل وقوانينه وتطويره
- تحسين المكافآت والحوافز والمرتبات للممرضات
- عمل أبحاث مستقبلية لمعرفة العوامل التي تساعد على الرضا الوظيفي للممرضات.

Factors Affecting Nurse's Role as Health Educator and Related Patient Knowledge at Adult Care Setting

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Abstract

Background: Health education is an essential component of nursing care aimed at promoting, maintaining, and restoring health, as well as enhancing patient coping to the residual effect of illness. Many factors might affect nurses' practice of their role as educators. Aim: to assess nurses' knowledge and health education ability in certain chronic diseases, identify the factors affecting nurses' role as educators, and assess related patient. Subjects and methods: this cross-sectional study was conducted at the critical care and medical departments in Zagazig university hospitals. The subjects consisted of 46 nurses and 46 patients admitted to the mentioned setting. Tools for data collection included a self-administered questionnaire to assess nurses' knowledge and ability to provide a health education message in simulated situations, and opinions about barriers to health education, and a structured interview form for patients. Results: none of the nurses had satisfactory knowledge regarding health education, and only 23.9% had adequate health education ability. The most important barriers for nurses role as educators were lack of trust, lack of continuity of care, and lack of suitable setting for health education.. Only 39.1% of the patients had total satisfactory knowledge regarding their condition. The highest percentage of satisfactory knowledge was regarding dietary regimen (52.2%), while the lowest was about treatment (19.6%). Also, the study revealed that 67.7% of patient subjects had some complications; 8.7% of them thought these complications were due to medication errors, and 19.6% attributed negative effect on their health condition to wrong health information. Conclusion and recommendations: studied nurses have unsatisfactory knowledge and inadequate practice of their educator role. This deficient health education ability has a negative reflection on patient related knowledge about own illness. Therefore, there is a need for preparing staff nurses as teachers through continuing education.

Introduction:

Patient education is one of the most important roles of the nurse. It is an effective tool for health promotion. It gains more importance in chronic diseases, with long duration of illness and treatment. According to ***Smith (1997)***, the benefits of health education include a positive client outcome, decreased readmission to hospital, in addition to its help in control of cost and maintaining high quality of care. ***Sale (2000)*** mentioned that quality of care is the degree of patient care service which increases the probability of desired outcome. Cases with chronic illnesses and short hospital stays require more attention for giving additional information to both patients and their families to assist them in improving their daily life. Meanwhile, the patient and his/her family may not fully understand the kind and the rate of progression in his/her condition that professionals believe is necessary. Furthermore, when hospitals discharge patients, they have a legal duty to protect those patients from foreseeable harm through health information, which enables them to make informed decisions about their health, manage their illness, and implement a follow-up care at home ***(JCAHO, 2000)***.

Concerning the target of health education, client teaching has to be focused on patients at risk for a knowledge deficit, e.g. patients with chronic illness, those needing special procedures, and when preventive measures are in need. As for the methodology, one or more of the health education approaches may be used. The medical approach is focused on medical interventions to prevent illness throughout the three levels of prevention. The behavior approach is aimed at changing patient behavior and attitude, i.e. lifestyle modification. In the educational approach, the educator tends to give patients health knowledge to persuade them for making informed decisions about their behaviors and act upon. The client-directed approach is focused on working with the patients to assist them in determining what is needed, and helping them in making decisions concerning their health. Lastly, the social change approach is aimed at changing the environment to facilitate the chance of lifestyle modification, and increase awareness of health aspects ***(Redman, 1997; Potter and Perry, 2005)***.

Health education is effective if it succeeds to change a person' health-related behaviors ***(Harkreader, 2000)***. For the nurse to be able to carry out her/his role as educator, and to teach patients and their families effectively, she/he must understand and make use of the factors that facilitate the teaching process. These include physical and emotional readiness of the recipient to learn, and motivation that enhances

acceptance. Motivating factors involve the use of appropriate methods of education, simple and clear language, in addition to the utilization of non-verbal communication ***(Beggs et al, 1998)***.

On the other hand, there are many barriers to patients' education. ***Boswel and Pichert (1996)*** have enumerated a number of those factors that may hinder the provision of effective health education, and have categorized them into physiological, cultural, environmental, and socio-economic factors. Physiological factors pertain to patient's readiness to learn, level of consciousness, and health condition, e.g. pain, hypoxia, chronic illness etc. Cultural factors include values, beliefs, language, customs and background. Environmental factors are concerned with the teaching environment, which needs to be pleasant, quite, warm, and comfortable in order to facilitate teaching. Concerning the socioeconomic factors, educators have to consider clients' social standard and economic state in their health education programs.

From another perspective, ***Harkreader (2000)*** has classified the factors affecting health education provided by nurses into two broad categories, namely those related to the recipient (the patient), and those related to the educator (the nurse). Patient factors include client age, race, gender, diagnosis, educational level and physical condition. As for nurse's barriers for client education, the author has mentioned lack of one or more of the following: priority, time, training, knowledge, continuity, resources, funds, and motivation.

From the researchers' experience in clinical areas in a number of hospitals, nurses seem to overlook their role as educators, and give much more emphasis to direct nursing care procedures. This might be related to a number of factors in the nurse and/or the workplace itself, as well as the patients, as mentioned before. Moreover, this deficiency of nurses' role as health educators might be reflected on certain patient outcomes. These are mainly related to lack of patient knowledge, with associated errors in medication administration and possible complications. Given the paucity of studies that have investigated the factors that might foster or hinder the nurses' educator role in local settings, there is a need for such research. Identification of such factors would help in increasing the effectiveness of patient education provided by nurses.

Aim of the study

The aims of this study were to 1) assess nurses' knowledge and reported practice related to health education in certain chronic diseases, namely diabetes mellitus, congestive heart failure, and chronic liver disease, 2) identify the factors affecting nurses' role as educators, and 3) assess some possibly related patient outcomes.

Subjects and Methods

Study setting:

The study was carried out at the inpatient department of internal medicine and Intensive Care Units in medical hospital at Zagazig University Hospitals. Medical hospital provides healthcare in nearly all medical specialties. It includes intensive Care Units, coronary care units, and dialysis units. Its total bed capacity is 300 beds. It is served by 365 nursing personnel.

Research design:

A cross-sectional analytic design was used in this study. This design is suitable for this type of research where the dependent (nurses' knowledge and reported practice) and independent (factors that might affect nurses' knowledge and reported practice) variables are measured at the same point in time to identify their interrelations.

Subjects:

The subjects of this study included two different groups, namely a nurses group for assessment of knowledge, practice, and factors affecting health education, and a patients group to assess certain related outcomes.

Nurses group: consisted of a convenience sample of 46 nurses working in the above-mentioned settings. The only inclusion criterion was having been responsible to provide a direct nursing care to patients in the study setting for at least one year. The majority of the nurses were graduates of secondary nursing schools (89.1%), and the remaining 10.9% had technical nursing institute diploma. As for their experience, 37.0% had less than 5 years of experience, and 30.4% had experience ten years or more. Thirty three (71.7%) of them were working in critical care units, and the remaining 13 (28.3%) were in general care.

Patients group: included 46 patients admitted to the mentioned study settings with the diagnoses of diabetes mellitus (DM), congestive

heart failure (CHF), and chronic liver disease (CLD). The inclusion criteria of the patients subjects were having any of these diagnoses, being conscious and able to respond, and willing to participate in the study. Half of the patients were 50 years old or more, 67.4% were females, and 65.2% were illiterate. The duration of illness was more than one year among 67.4% of them, and less than one year in the remaining 32.6%. Half of them were previously admitted to hospital. Slightly less than half (47.8%) were independent in their personal hygiene, while 26.1% were dependent on family, and 26.1% needed help from others.

Data collection tools:

Two different tools were used in this study to collect the relevant data, one for nurse and one for patients. They were developed by the researchers in Arabic language, based on pertinent literature ***Potter and Perry, 2001; Dewit, 2001)***.

Nurses' questionnaire: this self-administered questionnaire was intended to assess nurses' knowledge regarding to health education, as well as their health education ability in different situations, and their opinion about the barriers for their role as educators. Thus, it consisted of four sections.

- The first section was for personal data.
- The second section included questions covering information about health education such as definition, aim, patient need assessment, team, teaching strategy, time, and recipient. A correct response was scored 1 and the incorrect zero. For each part, the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score, and means and standard deviations were computed. The nurse knowledge was considered satisfactory if the percent score was 60% or more and unsatisfactory if less than 60%.
- The third section consisted of three different simulated situations: one for cardiac patient, one for a patient with hematemesis, and one for diabetic patient. These three examples were chosen because they represent common chronic illnesses encountered in nursing practice, and cover three different systems. Moreover, they are suitable for testing any qualified nurse abilities in health education. Additionally, the three simulated situations contained

details about the main disease, possible risk factors, any related complications, line of management, as well as patients' personal and family characteristics that must be considered in the health education message. The nurse was asked to develop a suitable health education message for each situation. The message was evaluated for its relevance to disease, suitability to patient's characteristics, scientific basis, correct and complete use of the information provided with each situation, as well as the simplicity, and clarity of the message. Each simulated situation was accordingly scored from 1 to 10. The scores of the three situations were summed-up and converted into a percent score. The nurse health education ability was considered adequate if the percent score was 60% or more and inadequate if less than 60%.

- The fourth section included potential barriers for health education grouped as patient-related (age, gender, education, awareness and perception, health status, patient/family psychological status, etc.), nurse-related (large number of patients, overload, lack of information, of experience, of incentives, of continuity of care), and hospital-related (issue not given importance, lack of funds, of facilities, of training courses, of suitable setting). The response for each item was on a 5-point Likert scale from "strongly agree", "agree", "uncertain", "strongly disagree", and "disagree." These were respectively scored 5, 4, 3, 2, and 1. Means and standard deviations were computed for each factor. The factors were then ranked according to the value of its corresponding mean.

Patient interview form: this structured interview questionnaire form was developed to assess patients' knowledge about their illness as an outcome of health education. It included a section for socio-demographic characteristics, a section for past and current health history, and a section for patients' knowledge regarding the following items: diagnosis, signs and symptoms, causes, management strategy, diet and exercise, possible complications, as well as their action in case complications happened. A correct response was scored 1 and the incorrect zero. For each part, the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score, and means and standard deviations were computed. The patient knowledge was considered satisfactory if the percent score was 60% or more and unsatisfactory if less than 60%.

Methods:

Official approvals to undertake the study were secured. Nurses were first approached by the researchers; explanation of the purpose was provided to them to obtain their consent to participate. The forms were then distributed to them to be filled. It took about 30 to 45 minutes for each nurse to fill the form. Then, the researchers approached the patients, explained them the aim, and sought their consent to participate. They conducted the individual interviews with each subject using the structured interview form. The interview lasted about 30-45 minutes for each patient. Total confidentiality of any obtained information was ensured.

Statistical analysis:

Data entry and analysis were done using SPSS 10.0 statistical software package. Data presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations for quantitative variables. Quantitative continuous data were compared using Student t-test in case of comparisons between two groups. For multiple group comparisons of quantitative data, one-way analysis of variance test (ANOVA) was used. Statistical significance was considered at p-value <0.05.

Results:

Table (1) demonstrates that none of the nurses in the study sample (0.0%) had total satisfactory knowledge regarding health education. As for the knowledge about areas and elements of health education, the highest levels of satisfactory knowledge was regarding the best time for patient education and the recipient of health education, 71.7% and 63%, respectively. Conversely, only one nurse (2.2%) had satisfactory knowledge about the use of more than one strategy for health education.

As regards nurses' health education ability in different simulated situations, **table (2)** shows that less than one fourth of the sample (23.9%) had total adequate health education ability. The table also indicates that the highest percentage of adequate health education ability was related to the case of hematemesis (41.3%), and the lowest was related to the diabetes case (28.3%).

Nurses' opinions about the relative importance of the factors affecting their performance of their role in health education are illustrated in **table (3).** The mean scores were used for ranking the importance, with higher means indicating more importance of the factor. The lack of trust in

the nurse was the highest ranking patient-related factor, whereas patients' awareness and perception and their level of education ranked lowest. As for nurses-related factors, the most important was the lack of continuity, which ranked first; while the least important was were the large number of patients, followed by overload of work. Lastly, lack of suitable setting was the most important hospital-related factor, whereas the lack of funds and facilities came at the lowest ranks.

Table (4) presents the relation between nurses' knowledge scores and their personal characteristics. As be seen in the table, the only statistically significant association was found between nurses' knowledge and their years of experience ($p < 0.01$). It is evident that the scores of less experienced nurses, with less than 5 years experience (43.7±9.7), were higher than those with longer experience (31.8±10.4 and 32.2±11.0). Meanwhile, no statistically significant associations could be revealed between nurses' knowledge and either their qualification or their working department.

Concerning nurses' health education ability in simulated cases, and its relation to their personal characteristics, **table (5)** points to a statistically significant association with their working department ($p=0.02$). As the table shows, the health education ability score was higher in critical care compared to general care, 46.8±22.1 and 30.5±18.2, respectively. Neither qualification nor experience had any association with nurses' health education ability.

Table (6) indicates that only about two-fifth (39.1%) of the patients in the study sample had total satisfactory knowledge regarding their condition. The highest percentage of satisfactory knowledge was regarding dietary regimen (52.2%), while the lowest was about treatment (19.6%).

According to **table (7)**, about two thirds (67.4%) of the patients have experienced complications. Slightly more than half of those patients with complications went to doctor (51.6%), while 45.2% went to hospital, and only 3.2% took medications that were previously prescribed for them. The same table shows that about one fifth (19.6%) of the patients had the opinion that they had negative effects on health condition due to wrong information, and 8.7% of them thought they had complications due to medication errors.

Discussion

For many years, organizations governing and influencing nurses have encouraged and supported the view that nurses should play a major role in health education. Several surveys reported that nurses have a high value in patient education and believe that it is an important component of their jobs. Patient education not only includes information about assessment, treatment, medications, and follow-up of injuries or illnesses, but also includes information about how to avoid future illness and improve all health ***(Robinson and Kish, 2001)***. Nurses, as educators, must have a sound understanding of teaching and learning process, with consideration of learner characteristics as well as the strategies for educating others ***(Hogan and Madayag, 2004)***. Nonetheless, many factors do affect nurses' practice of their role as nurse educators.

The findings of the current study revealed that none of the nurses in the study sample had a total satisfactory knowledge regarding health education. This result might be due to that the great majority of them were having only secondary nursing school diploma certificate, and none had a bachelor degree in nursing. This explanation is in agreement with ***Broeker and Epstein (2005)*** who have mentioned that it is unreasonable to expect nurses to take responsibility for patient education when they have only basic nursing education background from diploma level. These authors have also added that, to take this responsibility effectively, the nurse must have a baccalaureate degree at minimum, whereas the nurse with only basic education must be excluded from patient education process.

Therefore, there is a need for preparing nurse students to maintain and improve their clinical skills and teaching abilities. This is also implied from the current study findings that have revealed that nurses' ability of health education in simulated situations was mostly inadequate. This result is quite plausible given the very low level of satisfactory knowledge about health education revealed among them. Moreover, it might be attributed to the fact that the concept of teaching was unclear to them, and that health education is often neglected in undergraduate curricula. The finding is in line with ***Hogan and Madayag (2004)*** who have similarly demonstrated that the nurses' role as patient educators is not being satisfactorily achieved, and that nurses have reported that they are unprepared for this role.

According to the present study findings, a statistically significant relationship was revealed between nurses' knowledge about health

education and their years of experience. This relationship was inverse, i.e. nurses with less experience years had higher knowledge scores. This might be explained by the fact that knowledge about health education cannot be enhanced by experience when actual performance and practice of health education is not done, as revealed in the present study sample. Thus, the very limited knowledge gained during undergraduate study is even lost with more experience years. The finding is however in disagreement with ***Hegazy (2003)*** who has shown a marked improvement in nurses knowledge with the increase in their years of experience. Meanwhile, ***Osman (2000)*** and ***Taha (2004)*** could not find any relationship between nurses' knowledge and their years of experience. The discrepancy among various studies might be explained by the differences in nurses' practice of their educator roles. The more they practice it, the higher is the chance that they gain more knowledge with longer years of experience.

The present study has also revealed a statistically significant relationship between nurses health education ability scores in simulated situations and their working department. Thus, nurses' health education ability scores were higher in critical care compared to general care. This difference might be attributed to the differences in the nature of patients and patients' management in critical care, compared to general care. These patients, along with their families need more intensive care, and usually are in need for more information about their health status, prognosis, medications, daily life activities, and discharge instructions. Consequently, critical care nurses might need to be more efficient in patient education to be able to respond to the queries of these patients and their families. Moreover, nurses' working in ICU are usually selected based on more strict criteria when employed, compared to general care nurses.

Concerning nurses' opinions about the factors that might affect or hinder their practice of their role as educators, the present study has revealed that the lack of trust in the nurse was the highest ranking patient-related factor, whereas for nurses-related factors, the most important was the lack of continuity, and the lack of suitable setting was the most important hospital-related factor. Hence, patient load, work overload, and lack of funds and incentives were less important hindering factors. These findings are in accordance with ***Brooker and Nicols (2003)*** who have similarly reported that the nurses were in need for skills and confidence to provide effective patient's education and improve/enhance coping strategies. Thus, gaining patient trust is of utmost importance in the practice of the educator role.

The present study has also investigated the effect of deficient nurses' knowledge about and ability of health education on patients' knowledge about their illness. The results have indicated that a low level of total satisfactory patients' knowledge regarding their illness. This was worst as regards their knowledge about treatment. The result is expected given the low level of nurses' knowledge and practice of health education. This finding is in agreement with ***Ali (2005)*** who have reported that the total correct knowledge of patients about their illness were similarly low.

Also, the present study has revealed that the majority of patients in the sample have experienced complications. Some of patients have ascribed these complications to wrong information, and others attributed them to medication errors. These findings underscore the need for accurate patient and family education before discharge from hospital, as well as providing patients with written information as reference when needed. On the same line, ***Brooker and Nicols (2003)*** have emphasized that inappropriate patient education is a major reason for patient readmission, and poor or non-compliance with health information and medications. Nevertheless, ***Robinson and Kish (2001)*** have mentioned that often patients are too anxious to remember instructions that were given to them at discharge. Fear of the unknown can lead many patients to avoid following instructions that seem unfamiliar or difficult. However, these authors have added that many complications can be avoided if the patients are willing and able to follow instructions.

Conclusion and Recommendation

Based on the findings of the study, it is concluded that the great majority of nurses in the study sample have unsatisfactory knowledge and inadequate practice of their educator role. The most important barriers were lack of trust, lack of continuity of care, and lack of suitable setting for health education. This deficient health education ability has a negative reflection on patients' knowledge about their illness.

Therefore, there is a need for preparing staff nurses as teachers, which can be achieved through continuing education and development in order to improve their teaching abilities. Moreover, the curriculum of nursing students has to address teaching and learning principles include in more breadth and depth. Furthermore, formal preparation of student nurses as educators has to be a part of the undergraduate curricula in nursing schools programs. Lastly, research is needed to assess the impact of improving staff nurses' knowledge and practice of health education on patients' care and outcomes.

Table (1): Knowledge about health education among nurses in the study sample (n=46)

Knowledge about health education:	Satisfactory knowledge	
	No.	%
Definition	18	39.1
Aim	16	34.8
Recipient	29	63.0
Sender	23	50.0
Resources	14	30.4
Media	10	21.7
Patient needs assessment	2	4.3
Criteria of success	4	8.7
Components	2	4.3
Strategies	8	17.4
Use of more than one strategy	1	2.2
Best time	33	71.7
Team members	15	32.6
Total satisfactory knowledge	0	0.0

Table (2): Ability of health education in simulated situations among nurses in the study sample (n=46)

Simulated situations:	Adequate ability	
	No.	%
Cardiac case	17	37.0
Hematemesis	19	41.3
Diabetes	13	28.3
Total adequate performance	11	23.9

Table (3): Opinions about factors hindering health education as ranked by nurses in the study sample (n=46)

Factors hindering health education:	Mean ±SD	Rank
Patient-related:		
Lack of trust in nurse	4.9±2.4	1
Diagnosis	4.7±1.7	2
Age/gender	4.3±2.0	3
Health status	3.9±1.7	4
Patient/family psychological status	3.7±1.5	5
Education	2.7±1.5	6
Awareness and perception	2.7±1.4	7
Nurse-related:		
Lack of continuity of care	4.4±1.5	1
Lack of incentives	3.5±1.8	2
Lack of experience	3.4±1.7	3
Lack of information	3.4±1.6	4
Overload	3.1±1.3	5
Large number of patients	2.7±1.7	6
Hospital-related:		
Lack of suitable setting	4.2±1.4	1
Lack of training courses	2.9±1.1	2
Issue not given importance	2.7±1.1	3
Lack of facilities	1.8±1.0	4
Lack of funds	1.3±1.1	5

Table (4): Relation between knowledge about health education among nurses in the study sample and their socio-demographic characteristics

	Knowledge % score (Mean ±SD)	Test	p-value
Department:			
Critical care	37.4±11.0	T=1.05	0.30
General care	33.4±13.0		
Qualification:			
Secondary nursing diploma	35.7±11.5	T=1.01	0.32
Technical institute	41.3±12.4		
Experience years:			
<5	43.7±9.7	F=6.96	<0.001*
5-	31.8±10.4		
10+	32.2±11.0		

(*) Statistically significant at p<0.05

Table (5): Relation between health education ability scores among nurses in the study sample and their socio-demographic characteristics

	Health education ability % score (Mean ±SD)	Test	p-value
Department:			
Critical care	46.8±22.1	T=2.35	0.02*
General care	30.5±18.2		
Qualification:			
Secondary nursing diploma	41.4±22.7	T=0.69	0.49
Technical institute	48.7±17.9		
Experience years:			
<5	47.1±25.4	F=0.69	0.51
5-	40.4±18.3		
10+	38.1±22.2		

(*) Statistically significant at p<0.05

Table (6): Knowledge about health education among patients in the study sample (n=46)

Knowledge about:	Satisfactory knowledge	
	No.	%
Disease symptoms/signs/complications	22	47.8
Diagnosis	22	47.8
Treatment	9	19.6
Dietary regimen	23	50.0
Effort/exercise	24	52.2

Table (7): Complications reported by patients in the study sample (n=46)

	Frequency	Percent
Had complications	31	67.4
Action (n=31):		
Went to hospital	*14*	*45.2*
Went to doctor	*16*	*51.6*
Took medications	*1*	*3.2*
Had complications due to medication error	4	8.7
Had negative effect on health due to wrong information	9	19.6

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الملخص العربى

العوامل التي تؤثر على دور الممرضة كمثقفة صحية والتأثير على المعارف الصحية للمرضى.

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مقدمة

يعتبر التثقيف الصحي عنصرا هاما في العناية التمريضية، وتلعب الممرضة دورا هامـا فـي هـذا المجال للمحافظة على الحالة الصحية للمرضى وتحسينها، وكذلك تجنب المضاعفات.

الهدف من الدراسة:

* تقييم معلومات وأداء الممرضات للتثقيف الصحي في بعض حالات الأمراض المزمنة.
* تقييم العوامل التي تؤثر على عمل الممرضة كمثقفة صحية.
* تقييم التأثير على معارف المريض.

مكان الدراسة
أجريت هذه الدراسة في الأقسام الباطنة والرعاية المركزة بمستشفيات جامعة الزقازيق.
العينة:
* ٤٦ ممرضة تعملن في أقسام الباطنة
* ٤٦ مريض بأقسام الباطنة.

أدوات البحث:
* استمارة استبيان ذاتية الملء لتقييم معلومات وأداء الممرضات للتثقيف الصحي في مواقف محددة وكذلك تقييم العوامل التي تؤثر على عمل الممرضة كمثقفة صحية.
* استمارة مقابلة لتقييم معلومات المريض عن حالته المرضية ومدى تأثرها بهذه المعلومات.

النتائج: أسفرت نتائج الدراسة عما يلي:
* انخفاض مستوى معلومات وأداء الممرضات للتثقيف الصحي.
* وجود علاقة عكسية ذات دلالة إحصائية بين مستوى معلومات الممرضات عن التثقيـف الـصحي وسنوات الخبرة.
* وجود فروق ذات دلالة إحصائية بين أداء الممرضات للتثقيف الصحي في الأقسام العامـة وأقـسام الرعاية، حيث كانت هذه الأخيرة أفضل.

* انخفاض معلومات المرضى عن حالتهم الصحية.

* حدوث مضاعفات للمرضى بسبب المعلومات الصحية الخاطئة تبعا لرأي المرضى.

التوصيات:

بناء على نتائج الدراسة يوصي بدعم من المؤسسة الصحية لدور الممرضة كمثقفة صحية، وإعداد الممرضة لتفعيل دورها في التثقيف الصحي، مع ضرورة احتواء المناهج الدراسية للتمريض على منهج خاص بالتثقيف الصحي.


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