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A 17 page quantitative study, using appropriate statistical methods to analyze and evaluate data.

I. Introduction

My study is an investigation into the causes of excessive oedema in my body. This condition started from sometime in the year 2002. I unsuspectingly thought due to aging process, and after accepting the death of my mother the previous year, my body had relaxed and I was gaining weight accordingly. I must say I was quite ignorant because even my skin had become rough and I had started using some of my free-size outfits. My work schedule did not change; in fact since the previous two years, I struggled to undertake more than one assignment as a free lance consultant. This was to enable me meet my family financial commitments, my part time Masters Class through Durham university, United Kingdom and my mother's hospital bill which remains outstanding to date. My mother died of a complicated liver disease, which was not diagnosed even at the time of her death. Back to my situation, I continued to offer my services to various organizations that contracted with me and to my household. I did not have a house - help at the time and the Kenyan culture is such that men do not do housework. I doubled up as a career woman, workhouse, mother, wife and child of a critically ill mother. I was also a sister to worried brothers and sisters and at the back of my mind, a professional counselor who should use counseling skills to attend to my mother, members of nuclear and extended family and friends. To be sincere, I was literally bleeding internally, at the thought of my mother's impending death. Now that I remember my true medical picture, I have also lived with chronic anemia all my life. Some of the highlighted issues must have contributed to a very bad health condition that nearly caused death. My research therefore, focuses on myself but I will use my medical records to be in line with quantitative methods of research.

Overview of the study

Chapter one of my small research is introduction. It briefly describes 'whom am I', why I chose the topic and an overview of the study. Chapter two is literature review, in which I explore briefly the possible causes of oedema and their effects, some known interventions to arrest the situation and a few definitions of terms. Chapter three discusses the methodology and data collection tools I employed. Chapter four discusses ethical issues relevant to the study. Results of the study are in chapter five and their discussion in chapter six. I have finally offered my conclusion and recommendations. All the above have been done, with reference to relevant literature.

Whom am I

I am a woman, and mother of two handsome boys, now aged 18 and 12 years. My elder son completed his 'O' levels and we are looking at various opportunities and options that may be available for him to pursue further studies. Meantime, he is attending Microsoft Office Suite – Composite Certificate course, to enhance his chances of admission to an institute of higher learning. Nearly all colleges world over, require students to be computer literate. After that course, he will do a diploma in Public Relations, which I trust will increase and enhance positive and mature interpersonal relationships. My younger son is now in standard seven.

I am in cross-cultural marriage, to one husband, who is in private accounting practice. I am an orphan, having

lost my father in 1989 and my mother in 2001. I have four brothers and three sisters.
I am a counseling psychologist and I free lance as a consultant/facilitator/counselor, to earn a living.

Finally, I am a Christian, and a gender based violence activist, in pursuit of psychological and spiritual knowledge, to enhance my journey to psychological liberation and ultimately, the Kingdom of God.

Why I chose the topic

My motivation to do the study is to understand my situation better and to be able to help other people suffering from a similar condition. I also take it as a self therapy, because, the more I read and write about it, the more my awareness of the issue increases. I have also realized, even members of my nuclear family do not quite understand my situation. They are either frightened about the expected reality within their perception, or they simply forget too soon. I get very serious attacks and yet I do not receive the expected help from them. I still have to do household chores or just tolerate the situation until I improve and carry on. Even then, I still force myself to do some of the duties when I am literally staggering. Many times, I fall in the streets as I scam for public transport to ferry me to various doctors, laboratories, and chemists. On the other hand, this has given me added determination, to live, take care of myself and see what the future has in store for me. I believe, I will continue to survive the attacks until I grow very old. I aspire to see my two sons successful and I feel obliged and privileged to be part of that vehicle to their success. I also want to leave a legacy. They will, if nothing else, remember me for my will power, generous love, patience and enormous humility. These sound like enslaving virtues, but they are sources of my inner peace and success.

II. Literature Review

Literature review is reading studies done by other researchers, examining materials for example artifacts, music, listening to stories, reading newspapers, and reviewing different types of media for example, television, radio, and so on. This helps to accumulate knowledge about a specific 'hunch', and to know what exists before providing an answer to the question. The reason for going through literature before conducting a study is as explained above and Neuman (2003:96) adds that it is; "..to compare, replicate, or criticize them for weakness". He further expounds that, literature review helps in demonstrating "..familiarity with a body of knowledge and establish credibility..outlines the direction of research..development of knowledge..integrate and summarize what is known in an area.." and this invariably stimulates ideas. I entirely agree with this. The more I read about a topic and specifically my situation in relation to this research, the more I get more ideas and understanding about the issue.

What is oedema ?

It is a swelling resulting from abnormal accumulation of fluid in body tissues, which may be generalized throughout the body or localized in specific areas for example, the liver. The generalized type, which I frequently experience is typical of kidney failure. A mysterious weight gain is realized and suddenly the whole body swells to 'ugly' proportions, causing discomfort and sometimes obstructing breathing, eating and causing nausea and actual vomiting, (Shepherd, 1999; Burgess et al 2000).

Possible causes of oedema

Some of the known causes of oedema are; faulty heart valves, high blood pressure, narrowing of the coronary arteries, and Kidney failure, which is also a symptom of oedema. Other causes, are malnutrition – particularly in small children; heart failure, blood disorders, hormonal factors associated with pregnancy, and premenstrual cycle as well as thyroid disorders, (Shepherd, 1999; Pitts, and Phillips, 1998; and Burgess, et al., 1994).

Other causes of oedema are; alcoholism, oral contraceptives, injuries and certain infections, (Burgess, et al., 1994). I personally suffer from oedema, caused by chronic kidney failure, which frequently leads to congestive cardiac failure. To decipher the exact cause of the condition, a medical diagnosis is necessary. Medical

history as well as physical examination of the specific swollen location and nature of the swelling is done by fingertip pressure which normally leaves an indentation in the swollen area. This implies that the lymph channels in such swollen areas are blocked and the patient/client is then sent for various laboratory tests, X-rays, scans to ascertain the extent of damage to the system and to rule out possible causes. The laboratory tests consist of blood tests, urine analysis, scan of chest cavity if obstruction of breathing is indicated like in my case; abdomen, bladder, kidney and any other organ depending on patient's/client's complaint.

Some of the effects of oedema

There are many, but because of page limit, I will mention a few and elaborate on only two. These are, congestive cardiac failure, kidney failure, disfigured body image, clumsiness, difficulty breathing and moving steadily, excessive tension that results in migraine headaches, joint aches and albeit, 'fear' – that even death may occur at any time, (My own experience, 2002 – 2004; Burgess, et al., (ibid); Shepherd, 1999).

Congestive cardiac failure is a condition that occurs, when the heart is unable to pump enough blood to meet the body's need for oxygen and other nutrients. The resultant reduced blood circulation, makes waste products to collect in body tissues, the blood builds up in the lungs and pulmonary oedema is caused, (Shepherd, 1999). In my situation, I initially exhibited pleural effusions. The thin double membrane that covers the lungs and lining of the chest cavity were inflamed, housing lots of fluid. The second major effect that I will explain briefly is kidney failure. This is failure of the kidney to release or remove toxic wastes from the blood and excrete them in the urine. There are several types of kidney failure but the scope of this paper, forces me to leave them out.

Some of the known interventions

Interventions for treating this chronic condition are merely temporary, since chronic already suggests the permanence of the condition. There is no absolute cure. However, the situation may be moderated and managed through all or some of the following remedies offered by; (Shepherd, 1999; Burgess, et al. 2000; Corey, 1996; Baron, 2003; Clasen et al., 2000):-

Medical treatment

Diuretics or water pills for example lasix to help in fluid excretion; digitalis – a medication to slow down and strengthen the heartbeat. As I write this, I envision January 2003 when my heart was flooded in fluid and the lungs overwhelmed by same. It appeared I would succumb to death since efforts to keep me stable were failing.

Nutrition Therapy

A nutritionist should be consulted after the doctor's diagnosis of the cause of oedema. Salt should be minimized or avoided completely in one's diet. If, like in my case it is due to kidney failure, low fat and low protein diet are recommended. I only take white protein and certain vegetables are also not recommended.

Exercise Therapy

Exercise is recommended, and in my case I use a stationery bicycle for fifteen to thirty minutes a day when I remember.

Self treatment

Rest, several times in a day is therapeutic with legs elevated, and plastic/surgical stockings are also recommended. I rarely get that time to rest daily, but whenever possible, I grab the opportunity. I also sleep in a semi - sitting position to alleviate night-time pulmonary oedema. Alcohol should be minimized or avoided, but I do not take alcohol therefore I am safe. Weight watch is also important, but again I am blessed with acceptable weight when I am healthy, until oedema disfigures me.

Psychological therapy
Behavioral techniques like visualization, relaxation, and imagery are very therapeutic. I practice these daily, reference, (Nthiga, 2003; 2004).
I wish to summarize this section by affirming that, the type of treatment/intervention will depend on the medical and psychological diagnosis of the disease; the available resources and the type of patient/client. With type of patient, I mean one's level of awareness, self concept and adaptability to situations.

III. Methodology

The Research Question: An investigation into causes of excessive oedema in my body.
The assignment directs me to use quantitative method. According to Woolfe and Dryden (1996:23), quantitative research comprises;
"..measurement and analysis of variables using tests, rating scales, and questionnaires". These are then interpreted, using statistical data. Neuman (2003) charges that, quantitative research concentrates more on design, sampling and measurement.

Quantitative method employs statistical data analysis to understand health behavior and other research findings. My topic is a health issue, hence my reason to use this approach. Since this approach, deals with numbers, it will highlight the progression of my disease symptoms and correlation between factors. This is in line with what Woolfe and Dryden (1996) suggest that, quantitative research incorporates group contrast, naturalistic and single minded case studies and relatedness of the factors. Although counseling psychology eschews single case designs, (Galassi and Garsh 1993 in Woolfe and Dryden, 996), I chose to use my health condition as a case study to help me look at the relatedness of the factors that contribute to oedema. I have my clinic records and I felt they are sufficient to provide an illustration of how statistical methods can be used to analyze and evaluate data. Redestam and Newton (1002:27) suggest that statistical methods are useful for "..looking at relationships and patterns and expressing.." them with numbers. They continue that; "..probablistic arguments are employed" as I have discovered in my case, hence I blend them with my descriptive patterns of behavior. In counseling research, both quantitative and qualitative methodologies may be employed because of the pluralistic position it takes. These approaches compliment each other such that qualitative methods look at phenomenological experiences to boost the statistical data derived from quantitative methods.

The sample hematology results I have chosen to evaluate from February 2003 to February 2004, are Serum Creatinine and Hemoglobin or blood count as it is commonly referred to. I am aware that statistical conclusion requires adequate sample size. Although I am the only participant, I am confident, the laboratory results are adequate for me to demonstrate my understanding of statistical analysis. In any case, there is no study that is 'definite' since all will leave questions for further study.

The results of the study are represented graphically and attached to this paper as appendices (ii), and (iii). I have tabulated them in a prefixed table and shown the percentages in bar charts, and line graphs in (ii) and (iii).

IV. Ethical Issues Pertinent to the study

Ethical principles help one to achieve goals and avoid strategies that compromise one's values, (Corey, et al. 1998). This would refer to a situation where a respondent experiences emotional discomfort when sharing 'deep' material. There are a number of ethical principles but I will only restrict myself to those I feel are relevant to my study. These are:-
Informed consent: This involves providing research participants/respondents with sufficient information about the study and its procedures and events before they agree to participate. It should also include a clause that

they are at liberty to withdraw from the study at any time if they so wish, (Baron, 2003; Corey, et al. 1998; Bond, 1995). (see appendix (i). I did not have to write a letter to myself, but I was aware that I would change the topic if I so wished, as a way of pulling out from the study.

Confidentiality: This is crucial and it guarantees clients/participants/respondents that, their issues will not be disclosed to third parties without their consent. This principle also stipulates that, they should be informed of circumstances that limit confidentiality, (Baron, 2003; Corey, et al. 1998). I am aware of this and I am not threatened to welcome you into my world. I feel safe and secure.

Anonymity; is another one, which refers to 'right to privacy'. I have not attached my clinic records. I have only selected those that relate to this specific study. I also have moral, civil and legal right to have personal information kept confidentially, and my name and condition not displayed to the public, in a manner that will undermine my credibility and ego, (Corey, et al 1998 and Baron, 2003).

Beneficence; is another principle which refers to protection of respondents' and community's interests, (Heppner, et al. 1999). I feel my interests are well protected. I am sharing my issues as a way of self therapy and also to complete my assignments and wait for my doctorate.

Non-Malefence This principle cautions researchers not to do any harm to the respondents, (Heppner, et al. 1999). I certainly have not done any harm to my self.

V. Results of the study

Results are best represented separate from their discussion. A critical comparison of serum creatinine and hemoglobin, during my moments of desperation are shown in appendices (ii) and (iii), attached to this study. I have used graphs and a table and these simply provide a condensed picture of data. They provide evidence of data collected and offer the reader a chance to see what is inside the data. Social scientists/researchers like myself, use statistics known as applied mathematics to manipulate and summarize features of numbers, (Neuman, 2003). This approach allows feasible description of numerical data, which then may be categorized by the number of variables available. Frequency of distribution is then easily visible and in my case I have summarized with percentages.

From the table, bar and line graphs, it is evident that my serum creatinine (level of protein in urine) is above normal, despite my health condition having improved considerably. The nearly normal situation was on 11th February. 2004, when serum creatinine was 56.16 against a normal mark of (44 – 80), which was equivalent to 90.48 % and yet I was experiencing a lot of discomfort, pain and oedema was generalized all over my body. I had a lot of tension in my head, limbs and even chest cavity, similar to what I experienced on 12th August 2003 at 97 against the same normal mark and a percentage of 156.45%.

With regards to hemoglobin, the highest a woman can have is 16 and lowest normal is 12, (Burgess, and others, 1994; Shepherd, 1999; Clinic Results' slips, 2003, and 2004). During the study period, my hemoglobin ranged from 6.to 9 – equivalent to 49.29% to 114.3 = 102.14%, indicating 2.114% above the minimum normal of 14. The normal hemoglobin level for a woman is between 12 – 16 and for men 14 – 18.

After periods of attacks and anxiety, I went to search for what I later deduced to be the lead to my chronic situation. Despite my continued clinics, my iron deficiency situation is not changing, save for the numbers as shown on the table in appendices (ii) and (iii).

From the internet, I came across useful information on different types of anemia, kidney and heart diseases. As I read, I decided to go for erythropoeitin test, because I was convinced that the hormone was either operating at a low key or was completely dead. Erythropoeitin comes from the Greek word erythropoeisis, which means production of blood cells. Most of this process happens in the bone marrow. Erythropoeitin itself, is a kidney

hormone which activates the bone marrow to produce red blood cells, (www.ucdmc.ucdavis.edu/ucdhs/health/a-/57Anemia/doc57.html, 2003). The result from the blood sample taken on 13th October, 2003 was 24.52 against a normal of 3.3 – 16.6, again higher than a normally functioning hormone. On 21st November 2003, my heart specialist referred me to the laboratory once more for a rheumatoid factor test, which turned positive. The creatinine test showed reactive protein but no figure was provided. Creatinine figure was also not provided on 2nd October, and 6th September 2003, but protein was indicated as positive (+++).

VI. Discussion of results

Statistical significance, which refers to number of respondents, allows one to confidently attribute an association to something and not just a chance. The sample size is of importance here. According to Neuman(2003), reliable difference can be detected when a sample of study is homogenous to facilitate the measure of relationship maginitude between the dependent and independent variables. From my results, I deduced that whenever the creatinine levels shot up, I was in a desperate situation, except for the very last laboratory test of 11th February, 2003. I actually concur with the doctor who dismissed the results, particularly of hemoglobin, which appeared to have shot up and yet I was pale, dizzy and with a lot of oedema. He all the same prescribed medicine, which helped because within two weeks, I was able to sit up without undue discomfort and the pain and tension had eased. Four weeks down the line, all the oedema had reduced tremendously and as I write, five weeks later, I do not have any at all.

I also note relationship between my hemoglobin and intensity of an attack. I had completely lost my gestalt when my blood count was below 11. The other dates when it was hovering between 11 and 12, I comparatively responded faster to treatment than February and March 2003, and the previous year 2002 whose data I did not include.

I also note that the times my oedema shot up more than other times, were either a few days preceding my very heavy menses and this continued/s throughout the period. At such times the test results were also not accurate. I could continue comparing the different factors and coming up with the correlation but I notice I have already surpassed my page limit, particularly since each chapter starts on a new page.

Overall, normal kidney function is very important if one has to maintain good health. If toxins are not expelled from the body, they become poisonous to the system and inhibit functioning of other organs. My situation was necessitated by the chronic anemia I have had for years without proper attention and treatment to the extent that the heart and kidney nearly collapsed completely. This has become a chronic situation because of the length of time it has taken without medical attention. Blood is to the body as fuel is to engines, hence when it is insufficient, the system stalls. Recommendations are attached, as appendix (iv).

VII. Conclusion

There are many causes of oedema, some of which are fetal. Management of the condition also depends on the cause and some of the diseases that cause oedema are untreatable as explained in the study. It is however, possible to moderate the situation using some of the various interventions mentioned above and many more left out.

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