

**PSYCHOLOGICAL HEALTH AND COPING STRATEGIES AMONG
CAREGIVERS OF BURNS PATIENTS**

THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON

BY



**IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF
MASTER OF PHILOSOPHY DEGREE IN CLINICAL PSYCHOLOGY**

JUNE 2014

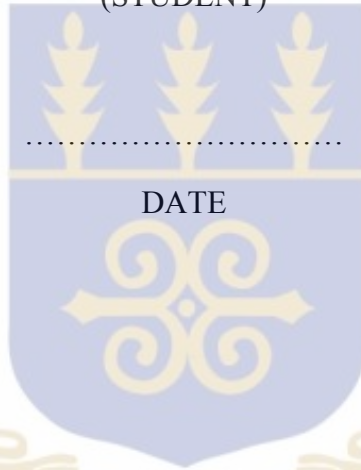
DECLARATION

This is to certify that this thesis is the result of research carried out by KEVIN BONSU towards the award of the MPhil Clinical Psychology Degree in the Department of Psychology, University of Ghana.

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ABSTRACT

This study examined psychological health and coping strategies among caregivers of burns patients. A sample of 100 caregivers (50 formal and 50 informal) were recruited from the Reconstructive Plastic Surgery and Burns Centre, Korle-Bu Teaching Hospital. The study employed a cross-sectional survey method and the participants were administered the Brief COPE (Carver, 1997), Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet & Farley, 1988), Beck Anxiety Inventory (Beck, Epstein, & Brown, 1988), Beck Depression Inventory (Beck, Ward, & Mendelson, 1961) and the WHOQOL-BREF (WHO, 2004). Data was analysed using Independent t-test, Pearson correlation, and Hierarchical multiple regression analysis. Results obtained from the analysis indicated that formal caregivers reported better quality of life as compared to informal caregivers. It was also observed that informal caregivers reported more anxiety and depressive symptoms as compared to formal caregivers. Further analysis revealed that as compared to informal caregivers, formal caregivers adopted more problem-focused strategies in dealing with stressors. However, there was no significant difference in their use of emotion-focused coping strategies. A significant positive relationship between social support and caregivers' quality of life was also established. A significant negative relationship was established between social support and anxiety. Depression was also negatively related to social support. Problem-focused coping strategy correlated positively with caregivers' quality of life. However, the predicted negative relationship between emotion-focused coping and quality of life was not supported. Hierarchical multiple regression analysis did not show any significant moderation effect of coping (emotion-focused and problem-focused) on the relationship between social support and quality of life. Majority of the findings are consistent with previous literature and the implications of these outcomes are discussed in relation to formal and informal caregiving and the health sector. It is concluded that the caregiving role (especially for those without formal training) could impact negatively on the psychological health of the caregiver. Use of effective coping strategies and strong social support could help lessen the negative impact of the caregiving role. Psychological services should be extended to caregivers to enable them perform their much needed roles to the optimum.

DEDICATION

To my Family and significant others, whose continuous assurance, support, and love made this thesis a reality.



ACKNOWLEDGEMENT

A big thank you to the Supreme Architect of the universe for the many blessings He continually surprises me with.

I take this opportunity to express my heartfelt gratitude to my principal and co-supervisors, Professor Danquah and Dr. Adote Anum, for their guidance, constructive criticisms and the strong will to impact on the younger generation.

I am very grateful to my family, my mum (Mad. Abena Pokua) especially, who has been very instrumental in my quest to pursue higher education.

To my research assistants (Korkor, Ken, Teddy, and Andy), I am highly indebted to you guys for the services offered. I also extend my gratitude to the Director and staff of the Reconstructive Plastic Surgery and Burns Centre, Korle-Bu Teaching Hospital.

This thesis would not have been possible without the participation of caregivers at the Burns Centre; their experiences enriched the contents of the study. I am very pleased and humbled to have worked with them.

Finally, I really appreciate the love shown by colleagues, friends and significant others towards the completion of this programme.

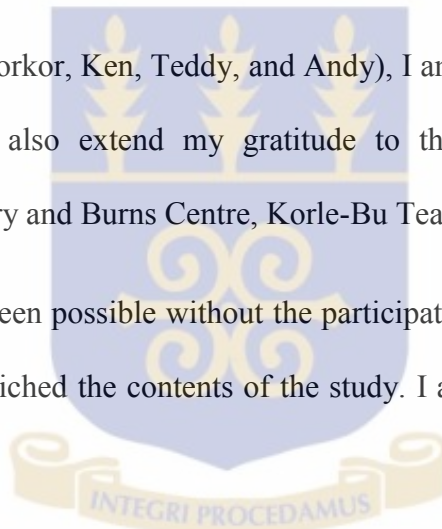


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LIST OF ABBREVIATIONS

BAI – Beck Anxiety Inventory

BDI – Beck Depression Inventory

MSPSS – Multidimensional Scale of Perceived Social Support

QoL – Quality of Life

RPSBC – Reconstructive Plastic Surgery and Burns Centre

WHO – World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The paradigm shift in holistic health care delivery in emerging and already developed economies has brought to bear the need for cooperation between healthcare practitioners and the immediate family of the patient in addressing evolving health needs. Coetsee (2007) states that the provision of care by informal service providers has been the dominant source of health care to most needy individuals. The assistance or level of involvement by these informal caregivers is essential during the entire hospitalization and final discharge of patients to their various homes. The types of services they provide are dependent on the relationship with the patient, nature of the illness, level of disability and the age of the care recipient (Collings, 2006). Caregivers are either referred to as “formal” or “informal”. Formal caregivers offer paid services and have undergone formal educational training in providing nursing care. Formal caregivers may include nurses and health care assistants.

An informal caregiver could be a relative, friend or neighbour who provides practical day – to – day unpaid support for a person unable to complete all of the tasks of daily living (Savage & Bailey, 2004). These tasks may include transportation arrangements, cooking, booking hospital appointments, household shopping, taking care of younger children and basic nursing care. Collings (2006) adds that part of the informal caregiver’s role is to advocate for their care recipient and to effectively monitor the adequacy of the formal care provided.

Savage and Bailey (2004) define the care recipient as a person who lives with some form of chronic condition that causes difficulties in completing the tasks of daily living. For this

study, the care recipient is the burns patient recovering from the trauma and physical pain associated with an unexpected burn injury. Grov, Dahl, Moum and Fossa (2005) posit that primary caregivers are mostly the patient's spouse, partner or closest relatives and significant others. The task of caregiving is quite demanding and could constitute either trained or untrained personnel. It generally arises out of a relationship with the recipient in response to the need for support which is greater than normally expected due to impairment in functioning (Goodhead & McDonald, 2007). Caregiving has all the features of a chronic stress experience thus it creates physical and psychological strain over extended periods of time, is accompanied by high levels of unpredictability and uncontrollability, has the capacity to create secondary stress in multiple life domains such as work and family relationships, and frequently requires high levels of vigilance (Schulz & Sherwood, 2008).

Understanding the effects or unique experience of caring for a burns patient by an informal caregiver (family member, friend or neighbour) and a formal caregiver (nurse) shapes the purpose of this study.

Bookman and Harrington (2007) posit that informal caregivers contribute to the health system and constitute an important shadow workforce. Often times their roles are overlooked as they automatically fill the 'occupational' roles as expected by society whenever a relative or a friend falls ill. For some, the caregiving role is a fulfilling enterprise which offers many latent or manifest rewards, but also places unique challenges in relation to increasing psychological distress (i.e., stress, depression and anxiety). Caregivers have to balance their caring responsibilities with employment and financial security, their own physical and mental health, and overall quality of life (Tooth et al., 2005).

It therefore becomes essential to further explore the coping resources utilized by both formal and informal caregivers and their overall impact on psychological health. Parks and Novielli (2000) assert that coping strategies are vital in assisting caregivers to manage burdens as they act as a preventive measure against affective disorders commonly associated with caregiving. Yiengprugsawan, Harley, Seubsman and Sleigh (2012), point out that information on the prevalence, health and wellbeing of caregivers in middle-income economies is quite limited. Thus there is an urgent need for studies of caregiving in emerging economies.

In previous research on mental health and quality of life in primary caregivers according to gender, females by traditional role attribution, were more tuned to the caring function at home (Reverby, 1987). In recent years the responsibility has shifted with more men partaking in the role and functions of caregiving (Grov et al., 2005; Koerner & Kenyon, 2007).

Schulz and Sherwood (2008) in the review of the caregiving literature reported that measures of psychological well-being such as depression and stress have been the most frequently studied. Their study also consistently showed relatively large effects, moderated by age, socioeconomic status, and the availability of informal support.

A plethora of studies examining the relationship between informal caregiving and mental health have showed associations indicating higher prevalence of distress, depression and anxiety among caregivers' outcomes (Beach, Schulz, & Yee, 2000; Cannuscio et al., 2004; Coe and Van Houtven, 2009; Schulz and Beach, 1999). Shah, Wadoo & Lato (2010) also add that, research into the impact of care-giving shows that one-third to one-half of carers suffer significant psychological distress and experience higher rates of mental ill health than the general population.

It can be argued that the background of the caregiver (i.e., ethnicity, gender, or relationship to the care receiver) could have an influence on psychological health. For example, some studies have revealed that Caucasians reported higher levels of stress than African Americans (Hilgeman et al., 2009), women are more likely to report higher levels of stress than men (Koerner & Kenyon, 2007), and spouses are more likely to report higher levels of stress than adult children when it comes to caregiving (Kang, 2006).

The prevalence of anxiety disorder and depression is also higher in females (Xu & Wei, 2013). Older caregivers, people of low socioeconomic status, and those with limited support networks report poorer psychological and physical health than caregivers who are younger and have more economic and interpersonal resources (Schulz et al. 1995; Pinquart, 2001).

Notwithstanding the gloomy picture attributed to the caregiving role, previous research has pointed out that negative effects of family caregiving can be lessened with social support and positive coping behaviours such as problem-focused strategies (e.g., Palmer & Glass, 2003; Ashley & Kleinpeter, 2002; Goldzweig et al., 2013). Social support refers to support received (e.g. informative, emotional, or instrumental) or the sources of the support (e.g. family or friends) that enhance recipients' self-esteem or provide stress-related interpersonal aid (Dumont & Provost, 1999). The caregiver even though primarily focused on the rehabilitation of the patient also operates within a social environment from which he or she can seek support to buffer the effects of caregiving. Support could be sought from one's immediate family, friends, neighbours, co-workers, and religious groupings.

Di Matteo and Martin (2002) indicate that social support may render potentially stressful events more benign by diffusing or minimizing their initial impact. Research in this area points out that individuals in supportive social relationships are happier and healthier and live

longer than those who are socially isolated (Brown, 2007). A study by Noh and Kaspar (2003) suggested that the use of emotion-focused coping reduced depression if people were supported by their ethnic community members, while emotional coping exacerbated depression when ethnic community support was not available.

Schulz and Sherwood (2008) made a point worthy of note about the positive effects of caregiving. They mentioned that the caregiving role could be beneficial, enabling caregivers to feel good about themselves, learn new skills, and strengthen family relationships which means caregiving has something positive for the caregiver. In contrast, Coetsee (2007) suggests that caregivers who experience drastic life changes can become isolated from social support as a result of their responsibilities and confinement and therefore at risk for increased stress and depression.

In research on newly diagnosed cancer patients, Nijboer, Triemstra, Tempelaar, Sanderman and van den Bos (1999) have shown that primary caregivers may sustain their quality of life by gaining an appreciable level of self-esteem from the caregiving process.

There is however some level of understanding that the caregiving role if not managed well could be detrimental to the health of the caregiver because of the uncertainty of the role. There is substantive research on the predictors of mental health effects of the caregiving. Schulz, O'Brien, Bookwala, and Fleissner, (1995) and Pinquart and Sorensen (2003) have identified the following factors as predictors of mental health effects: the care recipient's behaviour problems, cognitive impairment and functional disabilities. The burns patient, depending on the severity of injuries could have some impairment in physical functioning and manifest some behavioural problems as well (e.g., anger, restlessness). They also identified the duration and amount of care provided, the caregiver's age (with older

caregivers being more affected), the relationship between caregiver and care recipient (with a spousal relationship having a greater effect) and the caregiver's sex (with females being more affected).

Epidemiology

A burn is an injury to the skin or other organic tissue primarily caused by heat or due to radiation, radioactivity, electricity, friction or contact with chemicals (WHO, 2014). Skin injuries due to ultraviolet radiation, radioactivity, electricity or chemicals, as well as respiratory damage resulting from smoke inhalation, are also considered to be burns. Burns are associated with relatively high mortality and morbidity worldwide, especially in the developing countries (Lau, 2006; Kalayi, 2006). An estimated 265,000 deaths every year are caused by fire- related burn injuries (WHO, 2014). Females and males have broadly similar rates for burns according to the most recent data, but females are at an increased risk because of the many domestic chores they perform (WHO, 2014). Quaicoe-Duho (2013) reports that the Reconstructive Plastic Surgery and Burns Centre, Accra, from January 2011 to the first quarter of 2012, recorded more than 850 burns cases. She further states that out of this number, 328 of them required admissions and 90 deaths were recorded.

The dynamic nature of burn injuries suggests that there is a need for a holistic care for patients. As a necessity, burn centres have a multidisciplinary team comprising of surgeons, nurses, physiotherapists, clinical psychologists, anaesthetists, dieticians and other allied health care professionals

A vast majority of the research in this area tends to focus on the physiological and psychological implications of burn injuries to the patients. Of interest to us in this research,

are the people who dedicate their lives and time to serve the health care and domestic needs of burns patients.

Not only can burn-related injuries leave patients with lifelong physical disabilities but burns can also result in severe psychological and emotional distress due to scarring, which often also result in significant burdens for the patients' families and caregivers (Agbenorku, Akpaloo, Yalley, & Appiah, 2010). Psychological and emotional distress encountered by burns patients includes posttraumatic stress disorder, depression, anxiety and low self-esteem. Further, while patient disease characteristics may directly contribute to caregiver psychological health, caregiver characteristics (e.g. sociodemographic factors and social support) may either directly impact psychological health or moderate the association between disease characteristics and caregiver psychological health (Longacre, Ridge, Burtness, Galloway, & Fang, 2012).

The overwhelming challenges may require that caregivers equip themselves with coping strategies in order to effectively deal with multifaceted responses emanating from the environment, health team, family or friends. Kim, Kashy, Spillers and Evans (2010) affirm that, the psychosocial needs of caregivers if unmet could be strong predictors of poor mental health. It is also known that the impact of caring on caregivers' mental health is different for individual caregivers (Savage & Bailey, 2004). The important role played by moderating factors is affirmed in the literature. They include the financial situation of caregivers, social support, coping strategies they employ and their own sense of mastery or self-esteem (Savage & Bailey, 2004).

Coping is considered one of the core concepts in health psychology and in the context of quality of life, and is strongly associated with the regulation of emotions throughout the stress

period (Folkman & Moskowitz, 2004; Kartalova-O'Doherty & Doherty, 2008). Zeidner and Endler (1996) define coping as a cognitive, affective or behavioural effort made by the individual to offset the impact of harm, threat or stress when an automatic response is not readily available.

Models of coping identify two distinct categories based on the intention and function of coping efforts: problem-focused coping, strategies which aim to solve the problem or do something to change the source of stress (e.g., planning, gathering info), and emotion-focused coping, strategies which aim to reduce or manage the feelings of distress (e.g., denial, seeking emotional support) [Lazarus & Folkman, 1984]. Sank, Berk, Cooper & Marazita (2003) further assert that the coping strategies of a family member may influence the treatment outcomes of their relative.

Research indicates that emotion-focused coping that involves wishful thinking, denial, or avoidance is positively related to reports of depressed moods and problem-focused coping is associated with reduced distress (e.g., Lazarus & Folkman, 1984; Judge, 1998; Tuncay, Musabak, Gok & Kutlu, 2008). However, Tuncay et al., (2008) affirm that there is no consensus as to which coping strategies are most effective, and how well a coping strategy serves the purpose of solving problems or relieving emotional distress. Lazarus and Folkman (1980) add to this by suggesting that problem-focused and emotion-focused strategies can be used for the same stressful event.

This study therefore seeks to build on previous research by directing the focus on the psychological health and coping strategies among caregivers of burns patients.

1.2 Statement of the Problem

Evidence on the health effects of caregiving gathered over the last two decades has helped convince policymakers that caregiving is a major public health issue and professional advocacy groups have also been instrumental in raising public awareness (Schulz and Sherwood, 2008). The evidence gathered has had little impact in the Ghanaian context where the focus still remains solely on provision of care to ill patients without recourse to the psychological and physical health of primary caregivers. This is problematic as the family plays a central role in the lives of its members. The need for this role becomes crucial especially in times of ill health and even death. Thus, for most Ghanaians, family caregivers are seen as vital to complement the role of formal health workers.

The burns patient is plagued with a myriad of problems related to body image, self-esteem, pain, guilt and excessive worry which may possibly have adverse impact on their psychosocial functioning. The aforementioned stressors experienced by the patient could also impact negatively on the psychological health of caregivers who lack the necessary coping resources and skills (Hodges & Humphris, 2009; Uren & Graham, 2013). Other factors like availability of social support, knowledge and perception of burns, degree or extent of burns, and accessibility of health personnel could also account for the stress associated with caregiving. A burns patient (depending on the severity and prognosis) might need extended periods of care to undergo several corrective surgeries and follow ups. Long term caregiving as established by Larrimore (2003) is associated with an increase in the risk for both physical and mental problems, which may include depression-impaired immune response, anxiety, family discord and social isolation.

From the studies mentioned above, it can be argued that the caregiver of the burns patient could be at an increased risk for developing mental health problems. However, the trend in general health practice in Ghana is geared towards the recipient of care to the neglect of family caregivers. Patients are also disadvantaged in accessing psychological services as the role of clinicians in the health sector has not fully been realised. Thus a vacuum in holistic health care is quite apparent in the Ghanaian context.

The study therefore focuses on an understudied group of caregivers who play a critical role in the total rehabilitation of the burns patients. Specifically, this study aims to examine psychological health outcomes and coping strategies of formal and informal caregivers.

1.3 Aims and Objectives of the study

This cross-sectional study aims to analyse and compare psychological health and coping strategies among formal and informal caregivers of burns patients.

The specific objectives of this study are to:

1. Examine whether significant differences exist between formal and informal caregivers in their quality of life and the use of coping strategies.
2. Determine whether significant differences exist in the levels of reported anxiety and depression between formal and informal caregivers.
3. Ascertain whether significant relationships exist between social support and psychological health.
4. Determine whether coping strategies are significantly associated with quality of life
5. Examine the moderation effect of coping strategies on the association between social support and quality of life.

1.4 Relevance of the study

This study will delve into the caregiving experiences of medical (burns) patients as majority of research on caregivers' literature focuses primarily on patients with mental health or psychiatric problems. It will provide empirical data on psychological health outcomes and coping strategies often utilized by caregivers when faced with varying stressors. The study will also investigate the role of social support in psychological health outcomes. This study will also highlight the need for the inclusion of mental health professionals or clinical psychologists in the multidisciplinary burns team providing care for patients. This is of prime importance as research shows an established link between patient psychological distress and caregiver psychological and physical health outcomes.

The study will also seek to compare formal caregivers (nurses) and informal caregivers (family and friends) on psychological health and coping. The study outcome will add to the caregiving literature as no such published literature has been found by the researcher on Ghana.

In conclusion, the findings of the study will make a case for psychological screening of caregivers and guide professionals in targeting and monitoring interventions aiming to develop caregivers' effective coping strategies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This current study seeks to explore the relationship between psychological health and coping strategies of burns patients' caregivers. Furthermore, differences in coping and psychological health among informal and formal caregivers will be investigated. This chapter therefore, presents the general overview of the theoretical frameworks that guided this research. The theories guiding this research are the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) and the Stress Process Model (Pearlin, Mullan, Semple, & Skaff, 1990). The review of empirical studies follows after to determine the current trend in caregiver research and the gaps in knowledge or critique of the literature. The literature is divided into three distinct sections: Psychological Health and Coping, Social Support and Psychological Health and Coping and Social Support. Theoretical and empirical reviews of the literature are followed by rationale for the current study, formulated hypotheses and operational definition of key terms.

2.2 Theoretical Frameworks

The dominant conceptual model for caregiving assumes that the onset and progression of chronic illness and physical disability are stressful for both the patient and the caregiver. (Schulz & Sherwood, 2008). Therefore, they recommend the framework of stress-coping models in caregiving research. Stress process models (Lazarus & Folkman, 1984; Pearlin et al., 1990) suggest that life stresses alone cannot explain the intensity of one's negative psychiatric outcomes, but rather that certain coping or behavioural factors mediate, or explain the relationship between life stress and negative outcomes (Mausbach et al., 2012). Thus the

use of these models will further enhance our understanding of the caregiving role of burns patients.

2.2.1. Transactional Model of Stress and Coping (Lazarus & Folkman, 1984)

The Transactional Model of Stress and Coping is a framework for evaluating the processes of coping with stressful events. This model is useful for health education, health promotion and disease prevention (Glanz, Rimer & Lewis, 2002). The transactional model emerged since the 1960s and has helped tremendously shape the direction of research on stress and coping. Psychological stress refers to a relationship with the environment that the person appraises as significant for his or her well-being and in which the demands tax or exceed available coping resources (Lazarus & Folkman 1986, p. 63). Krohne (2002) affirms that this definition points to two processes as central mediators within the person–environment transaction: cognitive appraisal and coping. Appraisal is an individual’s evaluation of what is happening for their well-being and coping is an individual’s effort in thought and action to manage specific demands (Lazarus, 1993).

Appraisal is based on the idea that emotional processes (including stress) are dependent on actual expectancies that persons manifest with regard to the significance and outcome of a specific encounter (Krohne, 2002). He adds further that this concept is necessary to explain individual differences in quality, intensity, and duration of an elicited emotion in environments that are objectively equal for different individuals. When faced with a perceived or potentially stressful event, we engage in cognitive processes that involve a primary and secondary appraisal.

A primary appraisal is an evaluation of the meaning and significance of the situation – whether its effect on one’s well-being is positive, irrelevant, or negative (Wood, Wood & Boyd, 2007). Krohne (2008) states that within primary appraisal, three components are

distinguished: goal relevance describes the extent to which an encounter refers to issues about which the person cares. Goal congruence defines the extent to which an episode proceeds in accordance with personal goals. Type of ego- involvement designates aspects of personal commitment such as self- esteem, moral values, ego-ideal, or ego-identity. Lazarus and Folkman (1984) reveal that an event appraised as stressful could involve harm or loss, threat and challenge. Explaining further, harm or loss refers to the (psychological) damage that has already occurred. Threat is believing an event is demanding and will put us at risk for damage (anticipation of harm). Challenge results from demands that a person feels confident about mastering. Challenges question how we learn or gain confidence from an experience. When people appraise a situation as involving threat, harm, or loss, they experience negative emotions such as anxiety, fear, anger, and resentment (Lazarus & Folkman, 1984). An appraisal that sees a challenge, on the other hand, elicits positive emotions such as excitement, hopefulness, and eagerness (Wood et al., 2007). In the present study, the individual (based on his preparedness for the role and other factors) appraises the newly assumed role of caregiving to determine whether it is a threat to his/her environment or not. Among other things will be determining whether the role will affect the caregiver's daily routine, work schedule or social life.

Secondary appraisal concerns coping options available to the individual. A secondary appraisal is a cognitive evaluation of available resources and options prior to deciding how to deal with a stressor (Wood et al., 2007). Three main questions are asked during secondary appraisal. "What options are available to me?" "What is the likelihood that I can successfully apply the necessary strategies to reduce the stress?" "Will this process work, will it alleviate my stress?" In the attempt to answer these pertinent questions the individual evaluates internal or external coping options as well as more specifically resources to create a more

positive environment. Available resources include physical (health, energy, stamina), social (support network), psychological (skills, morale, self-esteem), material (money, tools, equipment), and time. Thus it may become a reappraisal of the stressor and our coping resources. According to Krohne (2008), three secondary appraisal components are distinguished: blame or credit, coping potential and future expectations. He further explains that blame or credit results from an individual's appraisal of who is responsible for a certain event. Coping potential means a person's evaluation of the prospects for generating certain behavioral or cognitive operations that will positively influence a personally relevant encounter. Future expectations refer to the appraisal of the further course of an encounter with respect to goal congruence or incongruence. Inadequate resources to deal with the stressor during secondary appraisal results in high stress levels but sufficient resources during secondary appraisal leads to minimal or insignificant stress levels as the individual will make use of available coping responses. Thus the next chapter explains in detail the concept of coping responses during the stress process.

Coping constitutes constantly changing cognitive, behavioural and emotional efforts to manage particular external and/or internal demands that are appraised as taxing or exceeding the resources of the individual (Lazarus & Folkman, 1984). This definition clearly deems coping as a process-oriented phenomenon, not a trait or an outcome, and makes it clear that such effort is different from automatic adaptive behavior that has been learned. Folkman and Moskowitz (2004) affirm that it is a complex and multidimensional process that is sensitive to both the environment and the personality of the individual. Furthermore, coping involves managing the stressful situation; therefore, it does not necessarily mean mastery. Moos and Schafer (1993) assert that stressful situations increase individual coping efforts, and coping strategies are expected to reduce stress.

Lazarus and Folkman identified two major coping strategies, Problem-focused and Emotion-focused coping. Problem-focused coping strategies usually are used by adult individuals in work contexts, and emotion-focused coping strategies are used in health-related contexts (Lazarus & Folkman, 1984). In the present study, the individual who has taken on the role of caregiving for a burns patient evaluates the coping resources available to deal with the stressors associated with caregiving. As earlier mentioned, the caregiver could rely on both problem-focused or emotion-focused coping and social support in dealing with the excessive demands of caring for a burns patient. According to Wood et al. (2007), problem-focused or approach coping is direct; it consists of reducing, modifying, or eliminating the source of stress itself. Krohne (2008) also states that they can attempt to change the person–environment realities behind negative emotions or stress. Problem-focused coping includes strategies for information gathering, making decisions, planning, and resolution of conflicts. This type of coping effort is usually directed at acquiring resources to help deal with the underlying problem and includes instrumental, situation- specific and task-oriented actions (Folkman and Moskowitz, 2004). Problem-focused response can be directed externally to modify some aspect of the environment or internally to alter some aspect of self. For instance, if the caregiving role is too demanding or stressful and you appraise it as a threat, you may talk over your problem with a health professional, schedule your time appropriately, relax more or back out of it completely.

Emotion-focused or avoidant coping is coping that is directed at managing or reducing emotional distress, which includes cognitive strategies such as looking on the bright side, or behavioural strategies such as seeking emotional support, having a drink, or using drugs (Folkman & Moskowitz, 2004). It also involves reappraising a stressor in order to reduce its emotional impact. For instance strategies used for regulating emotional distress during the

caregiving role could include: avoiding (e.g. 'I can't take care of you'), distancing oneself from the emotion (e.g. 'I'm not worn out, I'll keep pressing on'), acceptance (e.g. 'this role can be tough sometimes, but ultimately my partner will get better'). Others could include seeking emotional support from a partner, friend or neighbour, venting anger and in extreme cases, abusing drugs and alcohol.

Lefley (1997), posit that caregivers' capabilities in coping with stresses change over time. Different coping strategies are used at the various stages of caregiving (Nolan, Grant & Keady, 1996) and Folkman and Lazarus (1980) also suggest that a combination of problem-focused and emotion-focused coping is probably the best stress-management strategy. For example, a caregiver of a burns patient may overlook her anxiety or depression (emotion-focused coping) while conscientiously adopting positive lifestyle changes such as increasing relaxation techniques and acknowledging and dealing with negative thoughts (problem-focused coping). Mitchell (2004) asserts that an increase in one dimension of coping does not imply a decrease in the other.

Regardless of the chosen coping mechanism there is an event outcome that is either favourable, unfavourable or there is no resolution. Event outcomes lead to positive or negative emotional responses. The Lazarus and Folkman (1984) model predicts that problem-focused coping will reduce the level of problems that could create stress, and that emotion-focused coping will reduce the level of internal emotional distress. However, two major problems are found in the transactional approach. Firstly, with the widespread usage of this approach, numerous measurements of human perceptions of the environment and coping methods have been constructed, but lacking a standard that is commonly accepted (Cohen, 1991). Besides, some scholars argued that the transactional approach is not comprehensive as

it weighs heavily on situational factors, but fails to explain the selection of coping strategies in people (Suls, David & Harvey, 1996).

2.2.2 The Stress Process Model (Pearlin, Mullan, Semple, & Skaff, 1990).

Another theory related to Lazarus and Folkman's Transactional model of Stress and Coping is the Stress Process Theory developed by Pearlin and colleagues (1990). The model was initially developed after a study involving 555 patients of non-paid demented caregivers across the United States (Pearlin et al., 1990). It was developed to conceptualize how stress was experienced as a process by informal family caregivers. The stress process model was later adapted to consider the stressful impact of caring for patients with Alzheimer's disease and with AIDS (Frishman, 2012). Pearlin and colleagues (1990) assumed that caregivers provided specific amounts or types of care that occurred in the context of other roles such as marital, parenting, or employment. The outcome of their initial studies led to the conceptualization of four contributing factors to caregiving stress. They include the caregiver's background and context, stressors, mediators/moderators and outcomes (Pearlin et al., 1990). This theoretical model is appropriate for this study as it involves caregivers of burns patients.

Caregiver's background and context as conceptualised in this study may include factors such as gender, age, marital status and employment status. This model proposes two categories of stressors: primary stressors and secondary stressors (Pearlin et al., 1990). Primary stressors they contend are those directly related to the role of caregiving, such as providing assistance and supervising the care receivers. The burns patient depending on the extent or severity of bodily damage will have some difficulty in carrying out routine daily activities. This could range from helping with personal hygiene, toileting, feeding and cooking. These activities undertaken by the caregiver could lead to some form of stress. Care recipient's behavioural

and cognitive problems are all conceptualized as primary stressors. Secondary stressors may include economic or social burden (Pearlin et al., 1990). Burns treatment is very expensive and only few can afford as it involves complex medical procedures and requires longer periods of hospitalization. Thus it could lead to a strain in financial resources of the caregiver and loss of productivity as well due to the newly assumed role of unpaid care.

The second major component of the stress process model is the unique role of moderators/mediators like coping strategies, personal responses and social support. According to Baron and Kenny (1986), a moderator is a qualitative (e.g., sex, race, class) or quantitative (e.g., level of reward) variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable. Further, they assert that specifically within a correlational analysis framework, a moderator is a third variable that affects the zero-order correlation between two other variables. On the other hand, a given variable may be said to function as a mediator to the extent that it accounts for the relation between the predictor and the criterion (Baron & Kenny, 1986). They affirm that mediators explain how external physical events take on internal psychological significance. Moderators and mediators may lessen the effects of stress or outcomes.

Coping has been defined as a response aimed at diminishing the physical, emotional and psychological burden that is linked to stressful life events and daily hassles (Snyder, 1999). Research has demonstrated that the use of effective coping styles lead to a reduction in psychological distress (Lazarus & Folkman, 1984; Tuncay et al., 2008; Noh & Kaspar, 2003; Folkman & Moskowitz, 2004).

According to Matzek (2011), caregivers' coping strategies include managing the situation (i.e., learning about the illness), making meaning of the situation (i.e., reducing expectations

or making positive comparisons), and minimizing stress associated with the situation (i.e., spending time alone, exercising, meditating).

Pearlin et al., (1990) assert that social support may be obtained from attending a support group or seeking the support of a friend or family member (Pearlin et al., 1990). As mentioned earlier, various studies have shown social support to be a protective factor for physical and psychological health (e.g., Ashley & Kleinpeter, 2002; Kim, Palmer & Glass, 2003; Chang, Brecht, & Carter, 2001). In the Stress Process Model, the outcomes of stress in the caregiver may include disturbances in mood (depression or anxiety) or a decline in the physical health. (Pearlin et al., 1990).

Finally, as noted by Pearlin et al., (1990), stress process theory defines outcomes as the effects of caregivers' abilities to maintain themselves and their social roles. They revealed that caregiver outcomes have included depression, anxiety, physical health, cognitive disturbance, and the decision to stop providing care. Previous components of the stress process have a direct or indirect impact on caregiver outcomes.

This study focuses on the direct relationship between caregiver characteristics and caregiver outcomes. This theory will attempt to account for the role of social support and coping strategies in psychological health outcomes (depression, anxiety and quality of life) of burns caregivers. Pearlin and colleagues (1990) have recognized that researchers all too often utilized individual characteristics such as social roles as statistical controls, consequently failing to give adequate attention to the relative impact of changing family and non-family roles on caregiver outcomes. A limitation of this theory acknowledged by Pearlin (2010) is that stability and change in caregivers' life circumstances are pertinent to understand, yet those dynamics are not fully addressed in the model.

2.3 Review of Related Studies

In pursuance of empirical evidence to establish the relationships between coping and psychological health, several studies on caregiver outcomes were reviewed. Only a few studies reported on caregivers of burns patients (e.g., Lewis, Poppe, Twomey & Peltier, 1990; Dorn, Yzermans, Spreeuwenberg & van der Zee, 2007), thus caregivers of patients suffering from other chronic or medical conditions were reviewed in the current study. It was assumed that they would share similar experiences and challenges in relation to the caregiving role. The chapter begins with the cultural context of caregiving in Ghana. The review of these related studies are divided into three sub-sections namely; Coping and Psychological Health, Social Support and Psychological Health and Social Support and Coping.

2.3.1 Caregiving in the Ghanaian context

Aboderin (2004) recounts that in sub-Saharan Africa the foremost source of support has been the household and family, augmented in many instances by other informal mechanisms, such as kinship networks and mutual aid societies. This is imbibed in the African values of reciprocity, reverence, and respect of caregiving. Kumado and Gockel (2003) also add that, traditionally the family was the critical focus in the provision of support when members became old and were threatened by economic deprivation, disability and social isolation. Further, they point out that the role of the family also extended to the provision of psychological stability and moral upliftment.

The term family is used to refer to both the nuclear unit (conjugal) and the extended family. In Ghana, there is often an abundance of support for the sick and their families, even in the era of the collapse of lineage or the extended family system (Kyei-Arthur, 2013). Similarly, Sackey (2005) adds that the care of the seriously ill may either result in family solidarity or

magnify existing dissensions and rancour within families, as the question of who takes care of the sick sometimes becomes extremely contentious. Thus, in times of ill-health members might be forced to quit their jobs, or relocate order to provide care for ailing family members. However, there seems to be a decline in traditional family and kinship ties thereby impacting adversely on caring for the old especially. Aboderin (2004) suggests that the shifts have been caused by a complex interaction between growing resource constraints and changing values not captured by existing accounts.

In societies the world over, women are both producers and carers; they care for children, for old people, the sick, the handicapped, and others who cannot look after themselves (Vickers, 1993). According to Songsore and McGranahan (2003) women also contribute towards paying the health bills of members in most low income households. Majority of family caregivers are generally likely to be women, in their role as mothers, sisters, daughters and wives (Kyei-Arthur, 2013). For instance, in the study by Ae-Ngibise, Doku, Asante, and Owusu-Agyei (2015), conducted in the Kintampo district, majority of caregivers of patients with Mental Disorders were females. Songsore and McGranahan (2003) suggest that there are ideological and cultural barriers that prevent men from partaking in these activities. In contrast, a study by Sanuade and Boatemaa (2015) reported approximately equal male to female ratio for caregivers in Ghana.

The caregiving role could ultimately impact on the physical and mental health of the caregiver because of inadequate community support systems. For instance, in the study by Sanuade and Boatemaa (2015) it was reported that, less than 5 percent (%) of caregivers received financial, emotional health, physical and personal care support. In contrast, a study by Kyei-Arthur (2013) revealed that caregiving was not related to physical and mental health among respondents in Accra (Ga Mashie and Agbogbloshie).

In summary, our Ghanaian culture dictates that we provide care or assistance for family members in times of distress, illness, death and sorrow. According to Sackey (2005) this is evident in our use of proverbs, adages and myths, to encourage the provision of care and shared responsibilities. This cultural expectation shields us from the burden associated with caregiving. However, globalisation and weakening of extended family ties puts this caregiving role to the test.

2.3.2 Coping and Psychological Health

Various researchers in their attempt to understand the caregiving role have conducted studies aimed at finding the possible link between coping and psychological health status. Psychological health outcomes as outlined in the Stress Process model (Pearlin et al., 1990) often measured include depression, anxiety and quality of life (Lewis et al., 1990; Kliszcz, Nowicka-Sauer, Trzeciak & Sadowska, 2004; Cooper, Katona, Orrell, & Livingston, 2008). Most studies have reported significant levels of decline in psychological health in relation to the newly assumed caregiving role. There are however inconsistent findings regarding the use of coping strategies and its impact on psychological health. This could be attributed to the conceptualization of coping and methodologies employed by researchers. However, Uren and Graham (2013) reveal that ineffective coping strategies may increase the negative emotional impact on the individual, while effective coping can be emotionally protective. The findings of the relevant studies are reviewed in the following paragraphs.

Amongst burns unit nurses, a study conducted by Lewis et al. (1990) revealed that 59% of nurses occasionally experienced anxiety prior to the commencement of their shift. This anxiety manifested itself in the form of sleep disturbances, stomach pains, headaches,

moodiness and fatigue. However, this study failed to account for the age group of nurses mostly affected and other psychological health outcomes.

To bridge this gap, a study by Kliszcz et al. (2004) reported increased level of anxiety in the youngest group of nurses, whereas the level of depression ranged from medium to low in the whole sample. The increased level of anxiety could be as a result of inadequate experience and coping resources.

To further identify work-related stress and coping strategies used, Kalichman, Gueritault-Chalvin, and Demi (2000) surveyed 499 members of the Association of Nurses in AIDS Care. Statistical analysis showed that nurses experiencing stress from their workplace were significantly more likely to use wishful thinking, planful problem solving, and avoidance as coping strategies, whereas stress originating from patient care was more likely to be dealt with using positive appraisal and acceptance. The study however did not account for the impact of these coping strategies on psychological health outcomes.

In addressing this limitation, a study by Chang et al. (2007) research hypothesised an association between problem-focused coping and improved health, emotion-focused coping with reduced health, and more frequent workplace stress with reduced health. The population of their study was Australian and New Zealand nurses. The findings of their study revealed that problem-focused coping was associated with better mental health. Emotion-focused coping on the other hand had a negative relationship with mental health. Contrary to hypotheses, coping styles did not predict physical health. Australian and New Zealand nurses scored effectively the same on sources of workplace stress, stress coping methods, and physical and mental health when controlling for relevant variables. Physical and mental health measures should have been clearly defined in the study.

To describe the outcome of those caring for stroke patients and to identify both patient and caregiver factors that are associated with poor caregiver outcomes, Dennis, O'Rourke, Lewis, Sharpe and Warlow (1998) carried out a randomized trial among 376 survivors of whom 246 identified a caregiver at a 6-month follow-up interview. The researchers found that caregivers were more likely to be depressed if the patients were severely dependent or emotionally distressed themselves. Relatedly, female caregivers reported more anxiety than male caregivers but caregivers' levels of anxiety were not so clearly related to the patients' degree of physical disability as their levels of depression. Caregivers suffered more emotional distress if the patients had been dependent before their strokes.

The main outcome of a study involving candidates of lung transplant candidates and their caregivers revealed that, caregivers who used more emotionally oriented coping had poorer quality of life scores (Myaskovsky et al., 2005).

Some studies have also addressed the impact of coping skills interventions on caregiver outcomes. One such randomized controlled study was conducted by McMillan et al. (2006) on family caregivers of hospice caregivers with cancer. Caregiver/patient dyads were randomly placed into three groups: hospice care alone, hospice care plus emotional support and coping skills intervention. Study outcomes indicated that the coping skills intervention led to significant improvement in caregiver quality of life. However, none of the groups showed significant change in overall use of problem-focused or emotion-focused coping.

In a study involving parents of adolescents of a mass burn incident, Dorn, Yzermans, Spreeuwenberg and van der Zee (2007) observed that parents of burn victims were more likely to present mental health problems during the first two years after the incident, when compared to the baseline. However the study did not provide mental health outcomes

investigated or psychosocial factors that could have accounted for the differences observed between the study sample and the baseline.

Cooper and colleagues (2008) in a study examining coping strategies, anxiety and depression in caregivers of people with Alzheimer's disease concluded that, emotion-focused strategies mediated the relationship between caregiver burden and anxiety after a year. However, problem-focused coping did not play a significant mediation role.

A longitudinal research finding by Berg (2009) among caregivers of stroke patients reported depressive symptoms ranging from between 30-33% in the total study sample. Older age of patients and stroke severity were the main predictors of depression among the caregivers at the acute phase. It was also found that caregiver depression at the acute phase was the best predictor of depression at a later follow-up. The outcome of the study indicates the positive relationship between care recipient's age and caregiver reported depressive symptoms.

A study by Green (2009) on coping and mental health among end-stage pulmonary lung cancer patients and their primary caregivers confirmed that particular coping styles were associated with poorer mental health outcomes. Emotion-focused coping and humour were associated with lower emotional quality of life in caregivers.

Not all studies on caregiving report negative findings. A study by Robison, Fortinsky, Alison Kleppinger, Shugrue, and Porter (2009) involving 4,041 respondents to the 2007 Connecticut Long-Term Care Needs Assessment confirmed that caregivers rated their health better than noncaregivers and did not report more depressive symptoms or social isolation. They also concluded that support training in physical and mental health should not be made mandatory for all caregivers but should rather be aimed at caregivers facing specific stressful conditions. However, there were some limitations of the study. Depressive symptoms were assessed with

the Prime-MD two-question depressive symptom screen and social isolation assessed with only one question. These measures could have limited the information provided by respondents in the study thereby underestimating the occurrence of depression and social isolation.

Hodges and Humphris (2009) conducted a longitudinal study (3 and 6 months post patient diagnosis) on head and neck cancer involving 101 patient-caregiver dyads. Findings of the study revealed that, at three months, 30.7% of caregivers had anxiety symptoms suggestive of clinical anxiety as compared to 18.8% for patients. At 6 months, reported symptoms suggestive of clinical anxiety were 36.6% for caregivers as compared to 20.8% for patients. Caregivers also had higher recurrence concerns than patients. Fear of recurrence was also noted to be correlated with emotional distress at each time point. This study went a step further to compare anxiety levels of caregivers and their patients. The results indicate a positive relationship between duration of caregiving and clinical anxiety.

In a similar vein, Ross, Mosher, Ronis-Tobin, Hermele, and Ostroff (2010) conducted a cross-sectional 6-24 months post-treatment study on psychological adjustment of 89 family caregivers of head and neck cancer survivors. The average time since diagnosis was 19 months. Psychological health findings indicated that, 38% of caregivers reported moderate to high distress. However, quality of life scores for the entire sample were better than the scores reported in initial validation studies on caregivers of patients undergoing active cancer treatment. Greater time spent caregiving was associated with worse psychological well-being, but also more positive adaptation to caregiving. This study highlighted the fact that caregiving does not always result in negative quality of life outcomes.

In contrast, a study by Celik, Annagur, Yilmaz, Demir, and Kara (2012) involving 142 pairs of hemodialysis (HD) patients and their family caregivers concluded that caring for

hemodialysis patients negatively impacts quality of sleep and quality of life of family caregivers. Another significant finding of this study was the confirmation that depressive symptoms affected 75 (52.8%) patients and 60 (43.3%) caregivers. Twenty-seven (19%) patients and thirty-nine (27.5%) family caregivers were reported to be above the cut-off score for clinically significant symptoms of anxiety. Sociodemographic variables had no effect on the outcomes of the family caregivers group.

In a related study, Marcon, Rubira, Espinosa and Barbosa (2012) evaluated the quality of life and the presence of depressive symptoms among the caregivers and drug dependent people of the CAPSad. The quality of life of the caregivers was more affected significantly as compared to the drug users. A strong correlation between quality of life and depressive symptoms was also found in both groups. Other psychosocial factors or demographic variables could have accounted for the strong correlation but the researchers failed to conduct further investigations.

A study by Jones, Fellows, and Horne (2011), revealed that medical students caring for cancer patients preferred a combination of problem and emotion- focused strategies to manage stress. The most stressful situations reported related to the patient's condition, the biopsychosocial effects of the cancer on the patient and his/her family, and breaking bad news. This research is in tandem with the Transactional model which suggests a combination of problem-focused and emotion-focused coping in dealing with stress.

To compare the use and effectiveness of coping strategies of primary and secondary informal caregivers of dependent elderly people living at home, Barbosa, Figueiredo, Sousa and Demain (2011) conducted a cross-sectional study in the district of Aveiro, Portugal. Results of the study suggest that emotion-cognitive strategies are less efficient for secondary caregivers (e.g. drawing on personal or religious beliefs). The most common problem-solving

strategies adopted by both types of caregivers involved relying on their own experience and expertise and addressing and finding a solution to the problem. Neither secondary nor primary informal caregivers managed care-related stress successfully, but both identified benefits from taking time off or maintaining interests outside of caregiving. Unlike other studies that studied only one group of informal caregivers, this study compared two groups of informal caregivers.

Calvette & de Arroyable (2012) in a study of people with traumatic brain injury identified that secondary control coping (e.g. acceptance and positive thinking) was associated with less grief and depressive symptoms, whereas primary control coping (e.g. problem-focused coping and emotional expression) and disengagement were associated with more symptoms.

García-Alberca, Cruz, Lara, Garrido, Gris, Lara and Castilla (2012) examined how disengagement coping partially mediates the relationship between caregiver burden and anxiety and depression in caregivers of people with Alzheimer's disease. Results from the analyses showed that the use of more disengagement and less engagement coping were significant predictors for anxiety scores and depression scores. However, the cross-sectional nature of the study may gloss over situation factors that could influence the levels of anxiety and depression among caregivers.

Kheiraoui, Gualano, Mannocci, Boccia, and La Torre (2012) conducted a cross-sectional study in ten Italian regions to evaluate the quality of life among doctors, nurses, and occupational safety and health technologists (OSHT). Number of years worked correlated positively with general health score, while those who spent more time in socializing activities achieved a higher mental health score. Amongst the health workers studied they concluded that nurses had the lowest measure of quality of life.

The purpose of a comparative study by Schreuder et al. (2012) was to investigate coping styles in relation to the health status and work environment of Norwegian and Dutch hospital nurses. This comparative study included a random sample of 5400 Norwegian nurses and a convenience sample of 588 Dutch nurses. We found that active problem-solving coping was associated with the health and work environment of Norwegian nurses but not with the health and work environment of Dutch. Passive coping (avoiding problems or waiting to see what happens) was found to relate to poor general health and poor mental health in both Norwegian and Dutch nurses. The large difference in sample size and sampling techniques employed is not enough to make a statistical inference especially with a comparative study as this one.

Unlike other studies that focused mainly on adult caregivers 45 years and above, Krattenmacher et al. (2013) in their study focused on adolescent caregivers of parents suffering from cancer. Their findings revealed that the caregiving role increased the risk of psychosocial problems; among the adolescents sampled, 29% showed emotional and behavioural problems. Active problem-solving, distraction, acceptance, wishful thinking and seeking social support were the most frequently used coping strategies. Findings revealed that problem-focused or approach-oriented coping strategies generally were associated with better mental health, while avoidance-oriented coping was associated with worse mental health. Emotion-focused coping was also associated with both lower and higher mental health. The study outcome confirms that the caregiving role affects not only adult caregivers but also adolescents providing care.

Washington, Demiris, Pike, Kruse, and Oliver (2014) conducted an exploratory study to examine the prevalence of clinically significant anxiety among informal hospice caregivers and to further identify the characteristics of caregivers prone to anxiety. Results confirmed

that 31% of informal hospice caregivers reported moderate or higher levels of clinically significant anxiety. Caregivers associated with the research site in the Northwest were less likely to be anxious than those in the Southeast, and employment status served as a protective factor against caregiver anxiety. Anxiety was significantly negatively associated with physical quality of life, and younger female caregivers reported more anxiety symptoms as compared to males. Researchers however focused on only anxiety to the neglect of other psychological health outcomes.

Yıkılkan, Aypak, and Görpeliöglu (2014) conducted a descriptive cross-sectional study on depression, anxiety and quality of life in 63 caregivers of long-term home care patients. In their study they found that 58.7% of caregivers had depressive symptoms and 12.7% had severe depression. The mean BAI score of the sample was 20.0 with 84.1% of the scores meeting the criteria for at least mild anxiety and 30.2% meeting the criteria for severe anxiety. Their results also showed that caregivers' level of education correlated with their burden. A longer duration of caregiving was also related to increased burden in both depressive and anxiety symptoms respectively. Almost all the mean scores referring to the quality of life scale were decreased (lower than 50), with the exception of mental health. The relatively small sample size of their study is not enough to make a generalization; however, the research outcome indicated that the long-term caregiving role negatively impacted the psychological health (anxiety, depression and quality of life) of caregivers.

2.3.3. Social support and psychological health

A plethora of studies carried in different parts of the world have shown social support (emotional and tangible support from friends, family and the broader community) to be a protective factor for physical and psychological health (Kim, Han, Shaw, McTavish &

Gustafson, 2010; Palmer & Glass, 2003; Chang, Brecht, & Carter, 2001). According to Chambers, Ryan and Connor (2001), research on the stress process indicates that coping and social support are resources that influence the extent to which a stressful situation (such as the duties and responsibilities of caregiving) affects psychological well-being. The studies centred on social support and measures of psychological health are evaluated in this discussion.

Lo, Hwang, Yau and Liu (2001) conducted a descriptive cross-sectional study to investigate the stress and social support of caregivers for burn patients during the rehabilitation stage as well as to determine the factors affecting them. Statistical analysis of the results indicated that caregivers of burn patients perceived medium-degree stress. The social support they received was also poor. Needed degree of social support, family income, degree of activity of the patients, total affected body area, and number of family members assisting the patients accounted for 57% of the total variance in perceived stress. This study even though patient focused highlighted the importance of social support and other variables on stress outcome of the burns patient

In a study conducted by Chang and colleagues (2001) findings revealed that a lower level of social support was related to a higher level of caregiver burden and depression, as well as a lower level of caregiver satisfaction.

Ashley and Kleinpeter (2002) reported a significant negative correlation between social support and depression, and a significant positive correlation between avoidance strategies and depression in a study involving 63 spousal dementia caregivers. Female caregivers were also inclined to seek more social support as compared to males. The sample size was small to make a generalization, however his study added to our knowledge on gender differences in seeking social support.

Lueboonthavatchai and Lueboonthavatchai (2006) in a study on schizophrenia caregivers concluded that their health status and social support were positively correlated to their quality of life.

Aria, Nagatsuka, and Hirai (2008) in a study concluded that the health related quality of life was lower for family caregivers than that of non-family caregivers. Their health related quality of life was also estimated by their social networks. This study showed the extent to which caregiving shaped by affective bonds leads to decline in quality of life. For non-family caregivers, perhaps it is a paid role and thus they have no connection to the patient.

Cumming, Cadilhac, Rubin, Crafti, and Pearce (2008) sought to examine the relationship between social support and the psychological effects experienced by long-term caregivers of stroke survivors. The design utilized was a prospective, multicentre, hospital-based stroke cohort study with 3 years of follow-up. Findings revealed that increasing social support was correlated with lower levels of depression, anxiety and inward irritability in caregivers. Social support was independently associated with anxiety.

The objective of a study by Amendola, Oliveira and Alvarenga (2011) was to evaluate the quality of life of family caregivers of handicapped people attended at home by Family Health Teams and the relationship with their social support. The study provides support for the influence of social support regarding quality of life. Other psychological health outcomes which could have had an association with social support were not investigated.

The main finding of a study on caregivers of people with traumatic brain injury indicated that social support (emotional and instrumental) was negatively associated with depression (Calvette & de Arroyable, 2012).

The moderating role of social support on depressive symptoms and quality of life was confirmed by Huang and Hsu (2013) in a study involving breast cancer survivors. Approximately 35% of respondents had depressive symptoms.

Correspondingly, a study by Xu and Wei (2013) also found that social support, especially subjective support, could moderate the association between anxiety and depression.

Stevens et al. (2013) conducted a study primarily aimed at examining the influence of three types of social support (appraisal, belonging, and tangible) on caregiver mental health (anxiety, burden, depression, and satisfaction with life) among Mexican caregivers of individuals with traumatic brain injury. It was a cross-sectional study involving 90 family caregivers from Hospital Civil Fray Antonio Alcade in Guadalajara, Mexico. Statistical analysis of results indicated that more months spent caregiving was associated with decreases in all three types of social support. Older age and fewer years of education were associated with lower appraisal social support. More hours per week spent caregiving was associated with lower caregiver state anxiety and greater satisfaction with life. Appraisal, belonging, and tangible social support were all significantly correlated with more positive caregiver mental health outcomes, except satisfaction with life. Appraisal social support independently predicted lower caregiver depression.

Khatib, Bhui, and Stansfeld, (2013) conducted a study to test whether social support was protective against psychological distress and depressive symptoms in an ethnically diverse population of adolescents. They further examined whether identified differences in support were reflected by ethnic differences in psychological distress and depressive symptoms. Based on a longitudinal survey of 821 adolescents, this study found low levels of social support from family members was prospectively associated with depressive symptoms. Compared with White UK pupils, Black pupils were less likely to display psychological

distress. However, social support did not explain the ethnic variations in psychological distress. They concluded that family environment may be a more consistent source of support compared with support from peers.

2.3.4. Social support and coping

Research on social support and coping has produced inconsistent results as researchers have used different approaches in investigating the relationship between the two. The moderation model suggests, coping strategies interact with perceived social support to affect psychological well-being and the mediation model suggests social support influences the choice of specific coping strategies (Kim et al., 2010). Other studies have also highlighted social support and coping strategies as independent predictors of psychological health outcomes (e.g. McColl et al., 1995; Chan et al., (2007). In light of the above findings, the following studies are reviewed.

McColl, Lei, & Skinner (1995) examined relationships between social support and coping over a one-year period in a sample (n = 120) exposed to a specific stressor (i.e. a spinal cord injury). They evaluated two major issues: patterns of social support and coping over time and the direction of the effects of coping on social support or vice versa. Subjects were assessed at 1, 4 and 12 months post-discharge to capture possible changes in patterns of social support and coping. Results of the study indicated that the perceived availability of social support was seen to have direct effects on future coping. At one month, social support had a direct positive effect on coping at four months. However, at four months social support had a negative effect on coping at 12 months, which may reflect a change in the structure of the social support construct itself. The outcome of the study provides evidence for the dynamic effects of social support on coping, depending on one's stage in the process of long-term adjustment.

Boey (1998) conducted a study to examine the role of coping strategies and family relationships in mitigating the negative effect of work stress on nurses. The nurses based on their levels of work stress and job satisfaction were placed in two groups. The distressed group (high work stress group with low job satisfaction levels) numbered two hundred and the stress-resistant nurses (high work stress group with high job satisfaction levels) numbered one hundred and thirty-eight. No significant differences in sociodemographic characteristics were found between the distressed and stress resistant groups. The findings indicated that nurses who adapted to work stress with high job satisfaction were more inclined to adopt approach coping methods (problem orientation, ability enhancement, and change of perspective) than those who reported low job satisfaction under high work stress. The stress-resistant nurses were also distinguished by a less frequent use of defensive or avoidance coping in handling of their emotional reactions to stress. They also perceived greater family support than did the distressed nurses.

Moszczyński and Haney (2002) investigated acute stress and coping among rural nurses who work with transfer trauma patients. Nineteen rural nurses aged 34 to 53 years participated in four focus groups. Each group was asked to identify a specific stressful situation involving transfer of trauma/accident patients and to share their experience of the situation. Coping responses often utilized by nurses included efforts to alter the problem (problem-focused coping) and efforts to control emotions (emotion-focused coping). Social support coping was identified as the most helpful way of coping with trauma.

Lambert et al. (2004) examined work stressors, ways of coping and demographic characteristics as predictors of physical and mental health among hospital nurses from Japan, South Korea, Thailand and the USA (Hawaii). Findings suggested that nurses indicated similar workplace stressors, ways of coping, and levels of physical and mental health. They

argued that cross-culturally nurses' role might vary; however, certain factors are predictive of the status of hospital nurses' physical health and mental health. For all countries, self-control, seeking social support, planful problem solving and positive reappraisal were found to be the four most utilized ways of coping. Their study highlighted the unique roles and challenges confronting nurses from four different countries.

Lin, Probst, & Hsu (2010) conducted a cross-sectional study on the moderating effects of coping behaviours and social support on the relationship between job stress and depression among female psychiatric nurses in southern Taiwan. The main finding was that social support was identified as a significant moderator on the relationship between job stress and depression scores among psychiatric nurses. The moderation role of coping behaviour was not supported in the study as argued by the Stress Process model (Pearlin et al. 1990).

Eaton, Davis, Hammond, Condon, and McGee (2011) in an exploratory research paper investigated the coping strategies of families of hospitalized psychiatric patients and identified their positive and negative coping strategies. Findings pointed to the fact that family members used more emotion-focused coping strategies than problem-focused coping strategies. The common coping strategies used by family members were communicating with immediate family, acceptance of their situation, passive appraisal, avoidance, and spirituality. The family members also utilized resources and support systems, such as their immediate families, mental health care professionals, and their churches. Religion or spirituality as a coping strategy in dealing with stress is well documented in the African literature on caregiving.

The mediating and moderating roles of coping strategies on psychological health outcomes were further probed by Dardas and Ahmad (2013) in a study involving parents of children with Autistic disorder. The study outcome revealed that 'accepting responsibility' was the

only mediator strategy in the relationship between stress and quality of life. 'Seeking social support' and 'escape avoidance' were also shown as moderators in the relationship between stress and quality of life.

In a study by Goldzweig et al. (2013), caregivers (N=216) to older cancer patients (60+ years) were compared to a control group (N=76) of similarly aged people not suffering from life-threatening diseases. They reported on their psychological distress, social support and coping abilities. Results indicated that caregivers of cancer patients reported high levels of distress; low levels of social support and low levels of coping abilities negatively correlated to distress. Increased patient age was found to accentuate these processes. This study shed light on the impact of caregiving on the psychological wellbeing of caregivers. However, the sample size of the healthy control group is relatively small to make an effective comparison.

2.4 Summary of the Literature Review

The Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) and The Stress Process Model (Pearlin et al., 1990) provided the theoretical basis for this study. The models gave us an understanding of the various variables in the study. The Transactional Model places much emphasis on our perception of events and the resources available to manage the stressors that confront us. The outcome of the coping process they contend could be adaptation or maladaptation. The Stress Process Model on the other hand places emphasis on the association between caregiver background characteristics, stressors and the role of mediators/moderators (e.g. social support and coping) and how they result in psychological health outcomes.

The review of the relevant studies focused on the relationship between psychological health and coping strategies adopted by the burns caregiver. In general, the caregiving role of both medical and psychiatric patients resulted in unfavourable outcomes on depression, anxiety

and quality of life (Lewis et al., 1990; Dennis et al., 1998; Berg, 2009; Celik et al., 2012; Marcon et al., 2012; Washington et al., 2014). That is, caring for a family member over a period of time led to increased levels of anxiety and depressive symptoms and a decline in quality of life. However, most of the studies focused on one or two outcomes, that is, depression and/or anxiety (Berg, 2009; Dennis et al., 1998; Hodges & Humphris, 2009; Celik et al., 2012; Robison et al., 2009) and quality of life (Myaskovsky et al., 2005; Kheiraoui et al., 2012). Some of the studies relating psychological health to coping produced inconsistent findings basically due to the conceptualization of coping. On the whole, the use of problem-focused coping led to more favourable psychological health outcomes as compared to emotion-focused coping (Chang et al., 2007; Myaskovsky et al., 2005; Barbosa et al., 2011). Some studies also highlighted the benefits of emotion-focused coping (e.g. Calvette & de Arroyable, 2012; Krattenmacher et al., 2013).

The role of social support in psychological health was also reviewed with some studies (Arai et al., 2008; Amendola et al., 2011; Calvette & de Arroyable, 2012; Ashley and Kleinpeter 2002). These studies emphasized the protective role of social support against psychological comorbidity. That is, caregivers who had better social support networks reported positive psychological health outcomes. The moderating role of social support on psychological health outcomes was also affirmed in the literature (Huang & Hsu, 2013; Xu & Wei, 2013).

Finally studies on coping and social support were also reviewed (McColl et al., 1995; Boey, 1998; Moszczyński & Haney, 2002). Majority of the studies had social support and coping strategies as independent predictors of psychological health outcomes. The moderating role of coping was also affirmed in the literature (Dardas & Ahmad, 2013).

In conclusion, the review of related studies enhanced our knowledge on major research contributions and current trends in research on psychological outcomes and coping among caregivers.

2.5 Rationale of the Present Study

Majority of the studies reviewed focused primarily on adults or family members providing care to adults (60 and above) in long-term care (e.g. Barbosa et al., 2011; Washington et al., 2014) those suffering from stroke (e.g. Dennis et al., 1998; Berg, 2009; Cumming et al., 2008), Alzheimer's disease (Cooper et al., 2008; Garcia-Alberca, 2012). The present study therefore focuses on family members or non-members providing care for burns patients (children, adolescents, adults and the aged). Only a few studies looked at the unique experiences of caregivers of burns patients (e.g. Lewis et al., 1990; Dorn et al., 2007). They however focused on single outcomes, anxiety (Lewis et al., 1990) and mental health (Dorn et al., 2007) which makes it difficult in determining the impact of care on other psychological outcomes. Our study intends to extend this by focusing on anxiety, depression and quality of life among the providers of care.

None of the studies reviewed compared the unique experiences of formal caregivers (nurses) and informal caregivers (family members, friends, etc.). The studies rather conducted comparative studies between health professionals (e.g. Kheiraoui et al., 2011), caregivers and care recipients (e.g. Hodges & Humphris, 2009; Celik et al., 2012; Garcia-Alberca, et al., 2012) and primary and secondary informal caregivers (e.g. Barbosa et al., 2011). The unavailability of such comparative studies (formal and informal caregivers) limits our knowledge on the impact of paid and unpaid care on psychological health of the caregiver.

The present study therefore takes into account the unique experiences of formal and informal caregivers.

With regards to the literature on caregivers of burns patients in Ghana, no such study was cited. The studies on burns were patient-focused and related more to etiologies and mortality risk factors (e.g. Agbenorku, 2013) and prevalence rates in Ghana (e.g. Agbenorku et al., 2010). However, studies on caregivers of patient with mental disorders were cited in the study (e.g. Kyei-Arthur, 2013; Ae-Ngibise et al. 2015). Our study highlights the psychological health and coping strategies among caregivers of burns patients.

The collectivistic nature of our Ghanaian society brings to bear the importance of the family in providing care for the ailing family member. The paucity in the literature creates an opportunity for a formal study on caregiving to highlight the psychological health implications of the role and the availability of coping resources in managing the challenges.

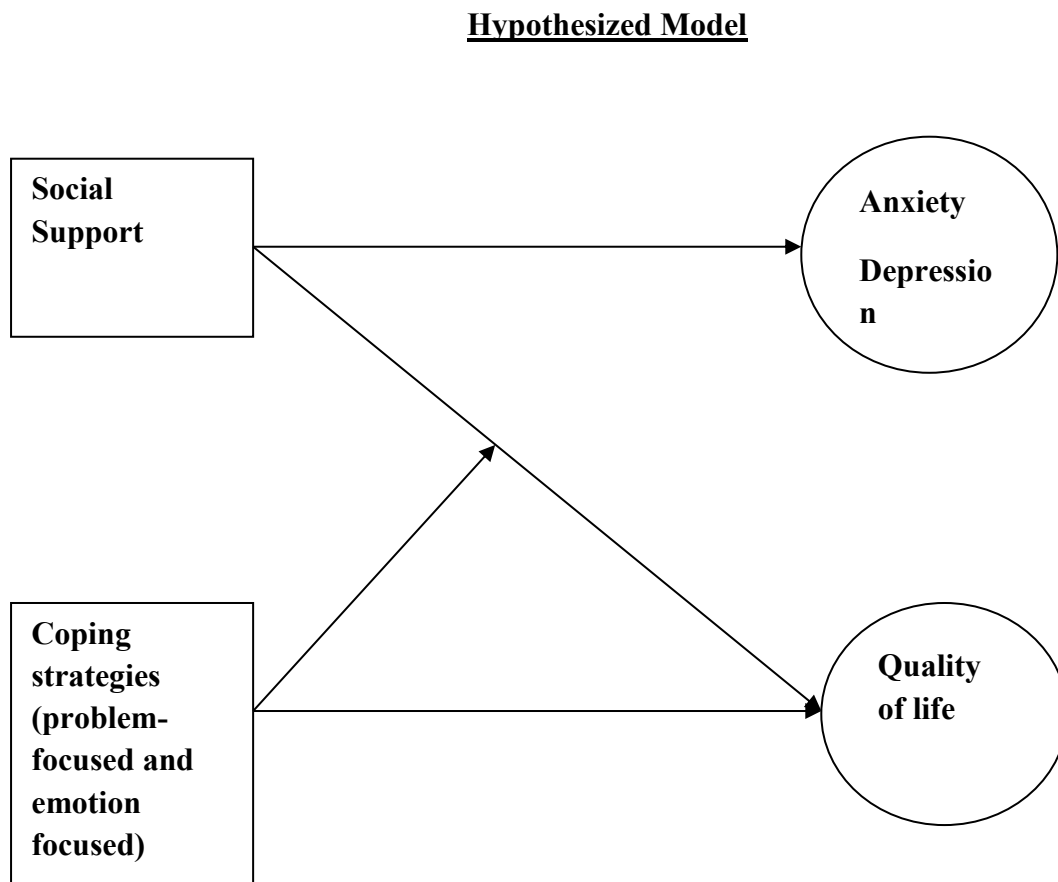
2.6 Statement of Hypotheses

Based on the empirical studies reviewed, the following hypotheses were tested:

1. Formal caregivers are more likely to report better quality of life than informal caregivers.
- 2a. Informal caregivers are more likely to report higher level of anxiety compared to formal caregivers.
- 2b. Informal caregivers are more likely to report higher level of depression compared to formal caregivers.
- 3a. Formal caregivers are likely to use more problem-focused coping than informal caregivers.

- 3b. Informal caregivers are likely to use more emotion-focused coping than formal caregivers.
4. There will be a significant positive relationship between social support and caregiver's quality of life.
5. There will be a significant negative relationship between;
- a. Social Support and Anxiety.
 - b. Social Support and Depression.
6. Problem focused coping will be significantly and positively associated with caregivers' quality of life.
7. There will be a significant negative relationship between emotion-focused coping and caregivers' quality of life.
8. The relationship between caregivers' social support and quality of life will be significantly moderated by;
- a. Problem-focused coping
 - b. Emotion-focused coping

Figure 2.1



In this model, social support is assumed to be significantly related to anxiety, depression and quality of life. Coping strategies are also assumed to be significantly related to quality of life. Coping moderates the relationship between social support and quality of life.

2.7 Operational definitions

Formal caregivers: This refers to duly registered nurses and health assistants working at the Reconstructive Plastic Surgery and Burns Centre.

Informal caregivers: They include family members, spouses or friends providing unpaid care services for the burns patient and undertaking major health decisions.

Psychological health: This will be conceptualized as depression, anxiety and quality of life.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter introduces the population/sample, measures, design, instruments, as well as the procedures involved in data collection of the research. This study uses a cross-sectional design to investigate psychological health and coping strategies among caregivers of burns patients.

3.2. Population

The population of interest in this research was all caregivers (formal and informal) of burns patients at the Reconstructive Plastic Surgery and Burns Centre (RPSBC) at the Korle-Bu Teaching Hospital, Accra. It was the first Reconstructive Plastic Surgery and Burns Centre to be built in the West-African sub-region. The unit is a major referral centre for the people of Ghana and neighbouring countries.

3.3 Sample/Sampling Technique

The sample of this study was made up of 100 caregivers (50 nurses and 50 informal caregivers) of burns patients at the Reconstructive Plastic Surgery and Burns Centre. The convenient sampling technique was used in sampling the respondents for the study due to the limited number of burns patients at the RPSBC as compared to the general patient population at the Korle-Bu teaching hospital. Though overcrowded at the moment, the maximum bed capacity is 69 patients. To ensure statistical power, Wilson, Voorhis and Morgan (2007) state that the general rule of thumb is no less than 50 participants for a correlation or regression with the number increasing with larger numbers of independent variables. Further, the sample size determination was based on Tabachnick and Fidell (1996), who suggest that $N > 50 + 8(m)$

for regression analysis. The minimum sample size for this study was 74 as there were three independent variables (age, coping and social support), therefore, $50+8(3) = 74$. Thus the sample size of 100 in this study was adequate.

The characteristics of the respondents in the study are summarized in table 3.1 below:

Table 3.1: Summary of Demographic Characteristics of the Respondents in the Study

Variables	Formal Caregivers (n=50)	Informal Caregivers (n=50)
Sex		
Male	9(18%)	12(24%)
Female	41(82%)	38(76%)
Age in Years	Mean = 31.98, SD = .24	Mean = 34.42, SD = 8.91
Marital Status		
Single	25(50%)	14(28%)
Married	21(42%)	29(58%)
Divorced	2(4%)	3(6%)
Widowed	2(4%)	4(8%)
Education		
JSS/Middle		16(32%)
SSS/O' Level	3(6%)	25(50%)
Tertiary	47(94%)	9(18%)
Relationship		
Spouse	-	11(22%)
Relative	-	20(40%)
Parent	-	8(16%)
Child	-	8(16%)
Friend	-	3(6%)

The majority of respondents in the formal and informal groups were females, 41 (82%) and 38 (76%) respectively. This was expected as the literature reports majority of women as

playing the caregiving role. Males in the formal and informal groups represented 12% and 24% in each sample. There were more males in the informal group as compared to the population of nurses. The mean age of nurses in years was 31.98 (SD=.24) and 34.42 (SD=8.91) for informal caregivers. In the formal caregivers group, single nurses comprised 50% (25) of the sample and 42 % (21) were married. Two (4%) nurses were identified as divorced and two (4%) identified as widowed. Informal caregivers registered 14 (28%) single persons, 29 (58%) were married, 3(6%) were divorced and 4 (8%) were widowed. Majority of nurses (94%) were educated up to the tertiary level as compared to 18% of informal caregivers. Only 3 (6%) nurses had senior secondary/ordinary level education as compared to 25 (50%) caregivers. Sixteen (32%) informal caregivers had their education up to the junior secondary/middle school level. The differences in educational level were expected as the nursing course involves longer years in formal educational training. The relationship to the patient was only applicable to informal caregivers. Majority of the caregivers were caring for their relatives (n=20, 40%) and 11 (22%) were caring for their spouses. Others were parents (16%), adult children (16%) and friends (6%).

3.3.1. Inclusion Criteria:

Below are the criteria for inclusion of formal caregivers (nurses) in the study;

1. A registered nurse providing care at the burns centre for a year or more.
2. Willing to participate voluntarily.

Below are the criteria for inclusion of informal caregivers in the study:

1. A family member, spouse, or friend providing unpaid support to the burns patient.
2. Should have been playing this role for a month or more.

3. Should be aged 21 or more.
4. Willing to participate voluntarily.

3.3.2. Exclusion Criteria

Below are the criteria for exclusion of formal and informal caregivers from partaking in the study.

1. Caregivers who refuse to give consent to partake in the study.

3.4 Measures/Instruments

In order to achieve the aims stated above the following standardised measuring instruments aided in data collection

3.4.1. Sociodemographics

The Demographic Questionnaire requested information about both the caregiver (formal and informal) and the patient. Caregivers were expected to provide information on their age, gender, duration of caregiving role, marital status, level of education and occupation. They were also expected to provide information regarding the age and gender of their patients or care recipients.

3.4.2. Brief COPE (Carver, 1997)

This is a self-report questionnaire with 14 subscales describing different coping strategies, (two items per scale) with satisfactory psychometric properties (Carver, 1997). It is an abridged version of the COPE inventory (Carver, Scheier, & Weintraub, 1989) and the fourteen subscales assess different coping dimensions: self-distraction, active coping, denial, substance use, use of emotional support, use of instrumental support, behavioural disengagement, venting, positive reframing, planning, humour, acceptance, religion, and self-blame. The respondent indicates the frequency of use of a particular coping behaviour with a

scale of 1 ('I haven't been doing this at all') to 4 ('I've been doing this a lot'). Examples of items include, 'I've been turning to work or other activities to take my mind off things' (self-distraction), 'I've been getting emotional support from others' (emotional support), and 'I've been getting help and advice from other people' (instrumental support).

Muller and Spitz (2003) assert that the inventory has the advantage of being built from acknowledged theoretical models (Lazarus' transactional model of stress, 1984; behavioural self-regulation model, Carver and Scheier, 1981, 1998). Furthermore, they state that it can be used to assess trait coping (the usual way people cope with stress in everyday life) and state coping (the particular way people cope with a specific stressful situation). The Brief COPE has proven very useful in health related research (Carver, 1997; Muller & Spitz, 2003; Cooper et al., 2008). Internal reliabilities for the 14 subscales range from $\alpha = 0.57 - 0.90$ (Carver, 1997), and similar results have been found with a population of parents of children with ASDs ($\alpha = 0.54 - 0.93$) (Benson, 2009).

3.4.3. Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet & Farley, 1988)

This scale is intended to measure the extent to which an individual perceives social support from three sources: Significant Others (SO) (Items 1, 2, 5, and 10), Family (FA) (Items 3, 4, 8, and 11) and Friends (FR) (Items 6, 7, 9, and 12) [Zimet et al., 1988; Zimet, Powel, Farley, Werkman & Berkoff, 1990]. The MSPSS is a brief, easy to administer self-report questionnaire which contains twelve items rated on a seven-point Likert-type scale with scores ranging from 'very strongly disagree' (1) to 'very strongly agree' (7). Examples of items on this scale include, 'There is a special person who is around when I am in need' (SO), 'My family really tries to help me' (FAM), and 'I can count on my friends when things go wrong'.

The MSPSS has proven to be psychometrically sound in diverse samples and to have good internal reliability and test-retest reliability, and robust factorial validity (Khatib et al., 2013; Cecil, Stanley, Carrion & Swann, 1995; Wang and Gan, 2011). Most studies have also reported Cronbach's alpha of 0.81 to 0.98 in non-clinical samples, and 0.92 to 0.94 in clinical samples (e.g., Khatib et al., 2013; Pedersen, Spinder, Erdman, & Denollet, 2009).

3.4.4. The Beck Anxiety Inventory (Beck, Epstein, & Brown, 1988)

The Beck Anxiety Inventory is a 21-item multiple-choice self-report inventory that measures the severity of an anxiety in adults and adolescents. Because the items in the BAI describe the emotional, physiological, and cognitive symptoms of anxiety but not depression, it can discriminate anxiety from depression. The BAI's internal consistency (Cronbach's Alpha) ranges from 0.92 to 0.94 for adults, and test-retest reliability is 0.75 (Yıkılkan et al, 2014). The BAI is a self-administered instrument with 21 items that cover the most frequent anxiety symptoms observed in clinical practice. Each item was scored 0, 1, 2 or 3, with higher scores denoting an increasing severity of symptoms. Total scores can be categorized as minimal (0–7), mild (8–15), moderate (16–25), and severe (26–63).

3.4.5. The Beck Depression Inventory (Beck, Ward, & Mendelson, 1961)

The Beck Depression Inventory is a self-report measure of depression and includes items measuring cognitive, affective, behavioural, interpersonal, and somatic aspects of depression. It was developed as an indicator of depressive symptomatology and severity. The items of this 21-item questionnaire were originally developed from observations of depressed subjects. The purpose of the scale is not to diagnose depression, but to give an objective assessment on the severity of depressive symptoms. BDI scores greater than or equal to 17 (total score >28 signifies severe depression) have been reported to indicate depression that

may require treatment, with more than 90% accuracy. The Cronbach alpha reported for this study was 0.93.

3.4.6. World Health Organization Quality of Life Assessment - Bref (WHOQOL-BREF, 1996)

The World Health Organization Quality of Life Assessment–Bref (WHOQOL-BREF) contains a total of 26 questions that were developed in an attempt to provide a QoL measure that would be applicable cross-culturally (WHO, 1996). It comprises of 26 items, which measure the following broad domains: physical health, psychological health, social relationships and environment. Items of the scale range from 1 to 5 with higher scores denoting higher QoL. The total QoL score has been used for this study. The WHOQOL-BREF is a cross-culturally valid and reliable assessment of QOL. Dardas & Ahmad (2013) in their study reported a Cronbach alpha of 0.93 for the total QoL scale.

3.4.7. Pilot Study

Prior to the commencement of the present study, a pilot study was conducted to test the reliability of the four scales employed. The pilot study involving 20 nurses was carried out at the Reconstructive Plastic Surgery and Burns Centre of the Korle-Bu Teaching Hospital in Accra. The Cronbach alpha (Internal Consistency) was run for each of the four scales and the results obtained are summarised in the table 3.2 below:

Table 3.2*Internal Consistencies of the Scales from a Pilot study of 20 Formal Caregivers*

SCALE	Cronbach Alpha (Internal Consistency)
Brief COPE	.82
Beck Anxiety Inventory	.90
Beck Depression Inventory	.93
WHO Quality of Life	.90

From Table 3.2 above, the Brief COPE has a Cronbach alpha value of .82, Beck Anxiety Inventory reports a Cronbach value of .90, Beck Depression Inventory has a Cronbach value .93 and the WHO Quality of Life Scale reports a Cronbach value of .90. The four scales employed have Cronbach alpha values exceeding the minimum acceptable level of 0.5.

3.5 Design

The study sought to obtain self-report information on the psychological health and coping strategies amongst caregivers of burns patients, thus the most appropriate design for this study was the cross-sectional survey. Information was sought from participants only once.

3.6 Procedure

Ethical clearance was sought from the Institutional Review Board of the Noguchi Memorial Institute for Medical Research, University of Ghana, Legon. A letter of introduction from the Department of Psychology and the Ethical clearance certificates were sent to the Reconstructive Plastic Surgery and Burns Centre for permission to use their facility for the study. Permission was granted and a date and time was given for presentation to staff members. Data collection commenced thereafter.

Three research assistants were recruited to assist in collection of data and were subsequently briefed and trained on questionnaire administration. The Deputy Director of Nursing Services (DDNS) at the burns centre helped in the recruitment of nurses. The nurses were provided with the consent forms and set of questionnaires. Due to their busy work schedule, they were expected to complete and return the questionnaires at a later date. For the informal caregivers, the out- patients department of the centre was used for data collection. The patients identified their primary caregivers and those who consented were recruited for the study. There also had to be home visits for those who because of time constraints could not stay for the study. Data collection at the Burns Centre lasted for 2 months. Questionnaires used for the study were then securely stored and later sorted out for analysis.

CHAPTER FOUR

RESULTS

4.1. Introduction

This chapter presents the results from the analyses using the independent t-test, Pearson correlation and Hierarchical multiple regression. The SPSS 18.00 was used as the main data analysis tool. The results are divided into two main sections with section one dealing with the descriptive statistics of the variables in the study and the section two dealing with the testing of the stated hypotheses to determine whether they are supported by the data or not. The details of the findings are presented below;

Table 4.1: Summary of Descriptive Statistics of the Variables in the Study

Variables	Means	SD	Internal Consistency (α)
ANXIETY	18.91	10.85	.89
DEPRESSION	22.23	15.85	.95
QUALITY OF LIFE	77.34	16.39	.94
Physical	20.57	3.52	.52
Psychological	18.02	4.19	.72
Social	8.94	2.49	.81
Environmental	23.52	5.69	.87
SOCIAL SUPPORT	45.63	13.17	.88
COPING			
Self-Distraction	5.56	1.46	.50
Active Coping	5.74	1.31	.27
Denial	4.69	1.68	.64
Substance Abuse	3.47	1.72	.72
Use of Emotional Support	5.28	1.63	.50
Use of Instrumental Support	5.38	1.65	.63
Behavioral Disengagement	4.60	1.68	.55
Venting	5.13	1.56	.39
Positive Reinterpretation	4.85	1.63	.37
Planning	5.68	1.43	.47
Humor	4.44	1.81	.60
Acceptance	5.00	1.44	.12
Religion	6.13	1.82	.79
Self-Blame	3.03	1.78	.63

From table 2 above, it was observed that the respondents in the study had a mean anxiety score of 18.91 with a standard deviation of 10.85 (Reliability = .89). On their levels of depression, the respondents had a mean score of 22.23 with a standard deviation of 15.85 (Reliability =.95). On their overall quality of life, respondents had a mean score of 77.34 with a standard deviation of 16.39 (Reliability = .94). On the specific domains of quality of life, respondents obtained a mean physical quality of life score of 20.57 with a standard of 3.52 (Reliability = .52), a mean psychological quality of life score of 18.02 with a standard deviation of 4.19 (Reliability = .72), a mean social quality of life score of 8.94 with a standard deviation of 2.49 (Reliability = .81) and a mean environmental quality of life score of 23.52 with a standard deviation of 5.69 (Reliability = .87). Additionally, the respondents obtained a mean social support score of 45.63 with a standard deviation of 13.17 (Reliability = .88).

In terms of the various coping strategies adopted by the respondents, the respondents reported a mean self-destruction score of 5.56 with a standard deviation of 1.46 (Reliability = .50), a mean active coping score of 5.74 with a standard deviation of 1.31 (Reliability = .27), a mean denial score of 4.69 with a standard deviation of 1.68 (Reliability = .64), a mean substance abuse score of 3.47 with a standard deviation of 1.72 (Reliability = .72), a mean emotional coping score of 5.28 with a standard deviation of 1.63 (Reliability = .50), a mean instrumental support score of 5.38 with a standard deviation of 1.65 (Reliability = .63), a mean behavioral disengagement score of 4.60with a standard deviation of 1.68 (Reliability = .55), a mean venting score of 5.13 with a standard deviation of 1.56 (Reliability = .39) and a mean positive reinterpretation score of 4.85 with a standard deviation of 1.63 (Reliability = .37). Further, it was observed that the respondents obtained a mean planning score of 5.68 with a standard deviation 1.43 (Reliability = .47), a mean humor sore of 4.44 with a standard

deviation of 1.81 (Reliability = .60), a mean acceptance score of 5.00 with a standard deviation of 1.44 (Reliability = .12), a mean religious score of 6.13 with a standard deviation of 1.82 (Reliability = .79) and a mean self-blame score of 3.03 with a standard deviation of 1.78 (Reliability = .63).

4.2 Hypotheses Testing

Hypothesis One: *Formal caregivers are more likely to report better quality of life than informal caregivers.* To determine whether significant differences exist between formal and informal caregivers of burns patients in their quality of life, the independent t-test was used and the results are summarized in table 3 below;

Table 4.2: Summary of Independent t-test of Type of Caregiving and Quality of Life

Variables	Formal Caregivers	Informal Caregivers	df	t	ρ
Quality of Life (QOL)	55.68	42.48	98	6.41	.000
Physical QOL	14.08	11.32		4.96	.000
Psychological QOL	14.32	10.48		6.16	.000
Social QOL	13.70	10.22		6.04	.000
Environmental QOL	13.58	10.46		6.52	.000

Bonferroni Adjustment = .01

An examination of Table 3 above showed that a significant difference exists between formal caregivers (Mean=55.68) and informal caregivers (Mean= 42.48) at the .01 level of significant with results showing that formal caregivers of burns patients reported a significantly higher quality of life compared to informal caregivers, $t(98) = 6.11$, $\rho < .01$. Therefore, the hypothesis one that formal caregivers are more likely to report better quality of life than informal caregivers is supported. Additionally, significant differences were found

between formal and informal caregivers of burn patients in specific domains of quality of life with formal caregivers reporting significantly better Physical [$t(98) = 4.96, \rho < .01$], Psychological [$t(98) = 6.16, \rho < .01$], Social [$t(98) = 6.04, \rho < .01$] and Environmental [$t(98) = 6.52, \rho < .01$] qualities of life.

Hypothesis Two: *Type of Caregiving will significantly affect levels of anxiety and depression.*

2a: Informal caregivers are more likely to report higher level of anxiety compared to formal caregivers

2b: Informal caregivers are more likely to report higher level of depression compared to formal caregivers

To examine the hypotheses 2a and 2b above, the independent t-test was used to compare the means formal and informal caregivers of burns patients on their reported levels of anxiety and depression. The results are summarized in the table 4 below;

Table 4.3: Summary of Independent t-test of Type of Caregiving on Anxiety and Depression

VARIABLES	Formal Caregivers	Informal Caregivers	df	t	ρ
Anxiety	15.70	22.12	98	3.08	.002
Depression	13.64	30.82		6.43	.000

Bonferroni Adjustment = .025

An examination of table 4 above showed that informal caregivers reported a significantly higher mean anxiety score (Mean= 22.12) than formal caregivers (Mean= 15.70) of burns patients at the .025 level of significance, $t(98) = 3.08, \rho < .025$. Therefore, the hypothesis 2a

that informal caregivers are more likely to report higher level of anxiety compared to formal caregivers is supported. In the same vein, results from table 4 above showed that informal caregivers reported a significantly higher mean depression score (Mean= 30.82) than formal caregivers (Mean= 13.64) of burns patients at the .025 level of significance, $t(98) = 3.08$, $\rho < .025$. Therefore, the hypothesis 2b that Informal caregivers are more likely to report higher level of depression compared to formal caregivers is supported.

Hypothesis Three: *Type of caregiving will have a significant effect on choice of coping strategies*

3a: Formal caregivers are likely to use more problem-focused coping than informal caregivers

3b: Informal caregivers are likely to use more emotion-focused coping than formal caregivers

To test hypotheses 3a and 3b above, the independent t-test was used to compare the means formal and informal caregivers of burns patients on their coping strategies and the results are summarized in the table 5 below;

Table 4.4: Summary of Independent t-test of Type of Caregiving and Coping Strategies

VARIABLES	Formal Caregivers	Informal Caregivers	df	t	ρ
Problem-Focused	6.00	5.48	98	2.02	.023
Emotion-Focused	5.42	5.14		.86	.197

Bonferroni Adjustment = .025

Results from table 5 above shows that the type of caregiving has a statistically significant effect on respondents' use of Problem-Focused coping at the .025 of significance, $t(98) = 2.02$, $\rho < .025$ with formal caregivers using more problem-focused coping (Mean = 6.00) than

informal caregivers (Mean = 5.48). Therefore, the hypothesis 3a that formal caregivers are likely to use more problem-focused coping than informal caregivers is supported. However, the type of caregiving did not have any statistically significant effect on Emotion-Focused coping at the .025 level of significance, $t(98) = .86$, $p < .025$, with formal caregivers (Mean = 5.42) not significantly different from informal caregivers (Mean = 5.14). Therefore, the hypothesis 3b that informal caregivers are likely to use more emotion-focused coping than formal caregivers of burns patients is not supported.

Hypothesis Four: *There will be a significant positive relationship between social support and caregiver's quality of life.* To test this hypothesis which seeks to establish a linear relationship between caregiver's social support and quality of life, the Pearson Product Moment Correlation was used and the results are summarized in the table 6 below;

Table 4.5: Summary of Correlation Matrices of the Relationships among the Variables

Variables	1	2	3	4	5	6	7	8	9	10
1 Age										
2 Anx	.23*									
3 Dep	.27**	.61**								
4 PFC	-.02	-.13	-.12							
5 EFC	.03	-.19	-.27**	.11						
6 QOL	-.27**	-.50**	-.83**	.20*	.26**					
7 QOL1	-.26**	-.51**	-.83**	.21*	.26**	.95**				
8 QOL2	-.34*	-.49**	-.84**	.16	.18	.96**	.91**			
9 QOL3	-.18	-.46**	-.73**	.14	.30**	.92**	.81**	.82**		
10 QOL4	-.24*	-.44**	-.74**	.26**	.23*	.94**	.86**	.87**	.83**	
11 SS	-.16	-.46**	-.55**	.19	.22*	.59**	.58**	.52**	.58**	.56**

*=significant at .05 level of significance, ** = significant at the .01 level of significance. Anx= Anxiety, Dep= Depression, PFC=Problem-focused coping, EFC=Emotion-focused coping, QOL=Quality of Life, QOL1=Physical quality of life, QOL2= Psychological quality of life, QOL3=Social quality of life, QOL4= Environmental quality of life and SS= Social Support.

From table 6 above, it was observed that a significant positive relationship exists between caregivers' social support and quality of life at the .01 level of significance, $r(98) = .59, \rho < .01$. This indicates that the higher the level of social support received by caregivers, the better their overall quality of life and therefore, the hypothesis four that there will be a significant positive relationship between social support and caregiver's quality of life is supported. Additionally, social support correlated significantly and positively with all the specific domains of quality of life, Physical [$r(98) = .58, \rho < .01$], Psychological [$r(98) = .52, \rho < .01$], Social [$r(98) = .58, \rho < .01$] and Environmental [$r(98) = .56, \rho < .05$].

Hypothesis Five: *There will be a significant negative relationship between;*

5a: Social Support and Anxiety.

Results from the correlation matrices table 6 above shows that a significant negative relationship exists between the level of social support received by caregivers of burns patients and their level of anxiety at the .01 level of significance, $r(98) = -.46, \rho < .01$. This indicates that the more social support received by caregivers of burns patients, the lower their anxiety level and therefore, the hypothesis 5a that there will be a significant negative relationship between caregivers' social support and anxiety is supported.

5b: Social Support and Depression

It was also observed from the correlation matrices table 6 above that a significant negative relationship exists between the level of social support received by caregivers of burns patients and their level of depression at the .01 level of significance, $r(98) = -.55, \rho < .01$. This indicates that the more social support received by caregivers of burns patients, the lower their depression level and therefore, the hypothesis 5b that there will be a significant negative relationship between caregivers' social support and depression is supported.

Hypothesis Six: *Problem-focused coping will be significantly and positively associated with caregivers' quality of life.*

An examination of the correlation matrices table 6 above showed that there is a statistically significant positive correlation between caregivers' use of problem focus coping and their quality of life at the .05 level of significance, $r(98) = .20$, $p < .05$. This indicates that the more caregivers use problem-focused coping, the better their quality of life and therefore, the hypothesis six that problem-focused coping will be significantly and positively associated with caregivers' quality of life is supported.

Hypothesis Seven: *There will be a significant negative relationship between emotion-focused coping and caregivers' quality of life.*

This hypothesis was tested using the Pearson correlation and the results from table 6 above shows that a significant positive relationship exists between emotion-focused coping and caregivers' quality of life at the .01 level of significant, $r(98) = .26$, $p < .01$. However, the direction of this relationship is contrast to what was predicted and therefore, hypothesis seven that there will be a significant negative relationship between emotion-focused coping and caregivers' quality of life is not supported.

Hypothesis Eight: *The relationship between caregivers' social support and quality of life will be significantly moderated by;*

8a: Problem-focused coping

8b: Emotion-focused coping

The hypotheses 8a and 8b were tested using hierarchical multiple regression analysis following the steps proposed by Baron and Kenny (1986) in testing for moderation. The results from the hierarchical multiple regression analysis are summarized in the table 7 below:

Table 4.6: Hierarchical Multiple Regression Analysis of the Moderation Effects of Coping**Strategies**

Model	B	SEB	β
Step 1			
Constant	24.02	3.58	
Social Support	.55	.08	.59***
Step 2			
Constant	16.48	5.63	
Social Support	.51	.08	.55***
Problem-Focused Coping	.75	.77	.08
Emotion-Focused Coping	.96	.62	.13
Step 3			
Constant	16.11	5.79	
Social Support	.52	.08	.56***
Problem-Focused Coping (PFC)	.82	.78	.09
Emotion-Focused Coping (EFC)	.89	.64	.12
Social Support*PFC	.26	1.06	.02
Social Support*EFC	-.75	.94	-.07

$R^2 = .35, .38 \text{ \& } .38$ and $\Delta R^2 = .35, .02, \text{ \& } .00$ for Steps 1, 2, \& 3 respectively. *** = $\rho < .001$

A critical examination of the table 7 above shows that at step 1, social support accounted for a significant variance in caregivers' quality of life, $\beta = .59$, $\rho < .001$. At the step 2 of the results indicate that social support remained significant in explaining the variance in caregivers' quality of life, $\beta = .55$, $\rho < .001$ but Problem-focused coping ($\beta = .08$, $\rho > .05$) and Emotion-focused coping ($\beta = .13$, $\rho > .05$) did not account for any statistically significant variance in caregivers' quality of life. At the step 3, results showed that the interaction between social support and problem-focused coping is not significant in explaining the variance in caregivers' quality of life, $\beta = .02$, $\rho > .05$. This indicates that problem-focused did not significantly moderate the relationship between social support and caregivers' quality of life and therefore, the hypothesis 8a that problem-focused coping will significantly moderate the relationship between social support and quality of life is not supported. Similarly, results showed that the interaction between social support and emotion-focused coping is not significant in explaining the variance in caregivers' quality of life, $\beta = -.07$, $\rho > .05$. This

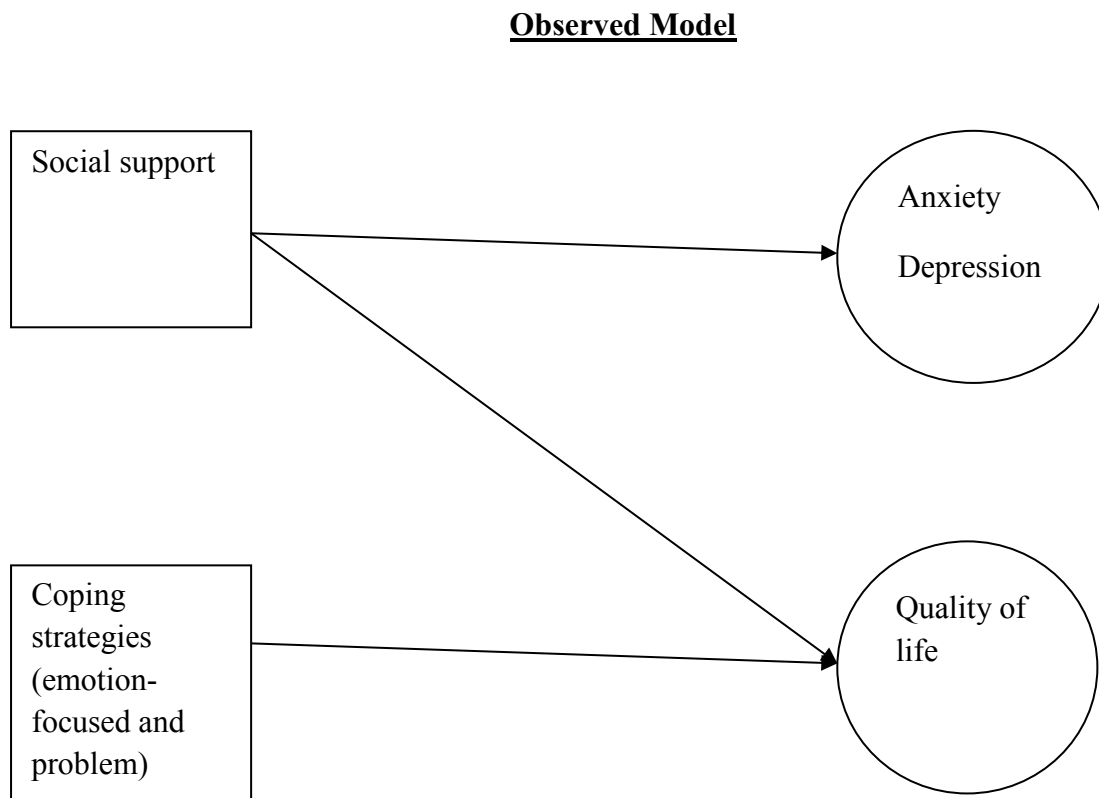
indicates that emotion-focused did not significantly moderate the relationship between social support and caregivers' quality of life and therefore, the hypothesis 8b that emotion-focused coping will significantly moderate the relationship between social support and quality of life is not supported.

Additional Findings

1. Age of caregivers was significantly and positively associated with the levels of anxiety and depression experienced by caregivers.
2. Age of caregivers was significantly and negatively associated with overall quality of life (physical, psychological, and environmental quality of life).

Summary of findings

- ❖ Formal caregivers reported significantly better quality of life than informal caregivers of burns patients.
- ❖ Informal caregivers of burns patients reported more anxiety and depression levels than formal caregivers
- ❖ Formal caregivers used more problem-focused coping than informal caregivers but no significant difference was found in the use of emotion-focused coping between formal and informal caregivers.
- ❖ A significant positive relationship was observed between social support and caregivers' quality of life
- ❖ Social support was significantly and negatively related to caregivers' levels of anxiety and depression.
- ❖ Problem-focused and emotion-focused coping related significantly and positively with quality of life.
- ❖ Coping strategies did not significantly moderate the relationship between social support and quality of life.

Figure 4.1

The model showed that social support is significantly related to anxiety, depression and quality of life. Coping strategies are also significantly related to quality of life. The moderation role of coping on the relationship between social support and quality of life was not established.

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This chapter reviews and interprets the findings of the present study. The findings of the study are discussed with reference to other related empirical studies and theories reviewed in the caregiving literature. The implications of the findings and the recommendations for future studies, caregivers, health practitioners, and the health sector are charted. The limitations of the study and conclusions drawn are also highlighted in reference to the findings of the study.

The caregiving role of a burns patient as the literature affirms is often unplanned or accidental and could lead to a disruption in the daily routine of the caregiver and care recipient. The burns patient is faced with a myriad of problems ranging from intense physical pain to psychological trauma. This not only impacts negatively on the care recipient but could also have a possible detrimental effect on the psychological health of the caregiver. Thus this study sought to examine the relationship between psychological health and coping strategies of caregivers and whether there exist any differences between formal providers of care and family caregivers. Formal and informal caregivers providing care at the Reconstructive Plastic Surgery and Burns Centre, Korle-Bu Teaching Hospital were the population under study. Equal number of nurses and informal caregivers comprising both genders were selected for the study.

Quality of life among formal and informal caregivers

An Independent t-test was conducted to examine whether there existed any differences between formal and informal caregivers on the quality of life scale. All four domains

(physical health, psychological health, social relationships and environment) of the WHOQOL-BREF instrument were used as indicators. The results of the independent t test showed that formal caregivers (nurses) reported significantly higher quality of life as compared to informal caregivers. This finding extended to all domains (physical, psychological, social and environmental) of quality of life measured. This finding could firstly be attributed to the formal training nurses undergo, which includes theory and clinical practice. They are supervised throughout their training and this continues even when they are providing formal care. In contrast, informal caregivers have no prior knowledge of care and mostly take on this role unprepared and unsupervised. There is no clearly defined structure and poses greater levels of uncertainty as compared to formal care. Ghanaian cultural values and social norms invariably make it impossible to neglect a sick family member and this is exemplified in the works of Ae-Ngibise et al. (2015), Kyei-Arthur (2013), and Sackey (2005).

Collings (2006) observes that formal care involves professional relationships shaped by code of conduct. Thus even though nurses aim to be compassionate during service delivery, maintaining professional relationship is key to providing optimum care. In contrast, Collings (2006) reiterates that informal care occurs in a relationship context shaped by affective bonds. Often times, care is provided to spouses, parents, children and other close extended family members. The provision of this care becomes crucial especially when the patient is the sole breadwinner of the family. Further, nurses are assigned to different patients, and thus their emotional attachment will be towards many recipients of care as compared to family members who often take care of an individual patient. For the family, the burns patient is their 'prized possession' and witnessing at first-hand such a change in life's circumstances becomes unbearable.

Additionally, nurses have a professional support system where problems related to patient care and nursing are discussed. The older nurses in most instances serve as mentees to the younger ones. This professional support system in most instances is unavailable to informal caregivers as the focus of care has always been the burns patient. This finding generally agrees with other studies that showed a reduction in quality of life amongst informal caregivers providing care for hemodialysis patients (Celik et al., 2012), drug users (Marcon et al., 2012), and long-term home care patients (Yikilkan et al., 2014). In contrast, Ross et al., (2010) reported better quality of life scores amongst head and neck cancer survivors as compared to previous validation studies on caregivers of patients undergoing cancer treatment.

Psychological health (Anxiety and Depression) of formal and informal caregivers

Further, the level of anxiety and depression between formal and informal caregivers was investigated. Results indicated that informal caregivers reported significantly higher levels of anxiety and depression as compared to formal caregivers. As earlier indicated formal caregivers undergo long years of clinical practice and are exposed to various clinical conditions. Thus the severity of the patient's burns and physical pains might not impact significantly on their psychological health as it would for close family members experiencing such trauma for the first time. The complexity of taking care of a burns patient and the lack of information flow in our hospital and clinics could also account for the psychological distress faced by caregivers. As noted by Hebert, Moore and Rooney (2011) nurses serve as the communication and translation link between patients and physicians, and as such have more knowledge and understanding on patients' condition. However, family caregivers often times have restricted access to information and are unable to know the true status of their ill relatives. Thus their levels of anxiety and depression are negatively impacted due to the

uncertainty of their newly assumed roles as caregivers. Notwithstanding, working especially in the Burns unit could report significant depressive symptoms of anxiety. This is evidenced by a study (Lewis et al., 1990) where 59% of the nurses sampled had significant levels of anxiety. A recent study by Kliszcz et al., (2004) reported that the youngest group of nurses reported the most anxiety.

From personal observation at the Burns centre, Korle-Bu, depending on the severity of the burns, some caregivers witness excruciating pain and restlessness on the part of patients or relatives especially during wound dressing. This is further compounded by the lack of an accompanying cooling system at the Burns centre which could help in minimising pain and distress. As earlier indicated, the manifestations of these psychological symptoms (stress, anxiety and depression) could directly impact the psychological health of the caregiver (Larrimore, 2003). Additionally, Dennis et al., (1998) observed amongst caregivers of stroke patients that, levels of anxiety were not so clearly related to the patient's degree of physical disability as their levels of depression.

Psychological health of formal and informal caregivers can be explained from the perspective of the Transactional model of stress and coping (Lazarus & Folkman, 1984). The caregiver appraises the role to determine whether it is a threat to his or her environment. Coping resources are then utilized to mitigate the impact of the stressor. Thus, there could be an increase of anxiety and depression if the caregiver perceives the situation as a threat and/or perceives an unavailability of adequate coping resources.

Schulz and Sherwood (2008) liken the caregiving role as having the features of a chronic stress experience. Collings (2006) also made a point worthy of mention that, caregivers are sometimes pressured into the caregiving role as they are perceived by others as being readily available. He states additionally that daughters are more pressured into providing elderly care as compared to sons. The situation is no different in Ghana where females (women and children) are expected to bear this responsibility.

The finding of informal caregivers reporting clinically significant levels of anxiety and depression is well documented in the caregiving literature (e.g., Beach et al., 2000; Cannuscio et al., 2004; Schulz & Beach, 2009). Similar findings have been reported on depression in caregivers of stroke patients (Dennis et al., 1998; Berg, 2009), hemodialysis patients (Celik et al., 2012) drug dependent persons (Marcon et al., 2012) and long-term home care patients (Yikilkan et al., 2014). The finding of increased caregiver anxiety is also consistent with caregivers of stroke patients (Dennis et al., 1998), cancer patients (Hodges & Humphris, 2009), and hemodialysis patients (Celik et al., 2012). Such results have also been replicated in caregivers of long-term home care patients (Yikilkan et al., 2014) and informal hospice caregivers (Washington et al., 2014).

Coping strategies of formal and informal caregivers

The finding of hypothesis 3 (a) suggested that formal caregivers opted for more problem-focused strategies (e.g., planning, gathering info) in managing their stressors related to their caregiving role as compared to informal caregivers. This finding was supported in the current study. Initial findings revealed that formal caregivers had improved quality of life scores as compared to informal caregivers. Studies reviewed earlier also posit that the use of more effective coping or problem-solving strategies results in better psychological health outcomes (Tuncay et al., 2008; Uren & Graham, 2013; Chang et al., 2007). Accordingly, it can be

inferred that the improvement in quality of life in nurses gave as an indication of their most utilized coping strategy. Nurses undergo years of formal training and practice prior to posting at health facilities. The years of clinical practice equips them with the needed tools to confront barriers or challenges in their professional roles. Collings (2006) also notes that they operate within a formal structure, where caregiving tasks are planned and regulated. Thus it is imperative for them to adopt more problem-focused coping in dealing with major sources of job stressors. In their care of burns patients, they have to be abreast with patient prognosis, trends in nursing care and effectively manage their care roles. The Transactional model (Lazarus & Folkman, 1984) posits that Problem-focused coping strategies usually are used by adult individuals in work contexts.

The finding of hypothesis 3 (b) pointed to the fact that formal and informal caregivers did not significantly differ in their use of emotion-focused strategies. Thus our hypothesis that informal caregivers would adopt more emotion-focused strategies was not supported in the present study. Lazarus and Folkman (1984) view coping as a process-oriented phenomenon, not a trait or an outcome. Thus our coping responses evolve to meet the complex demands of the environment or the caregiving process as argued by Nolan et al., (1996). There is actually no preferred coping style and Lazarus and Folkman (1980) suggest a combination of both as the best stress management strategy. Thus, it is not surprising that nurses and family caregivers adopt both emotion-focused and problem-focused coping strategies in meeting complex caregiving demands. Family caregivers face lots of uncertainties and challenges which may impact negatively on their psychological health, thus for some, strategies aimed at relieving emotional distress become the preferred form of coping. Nursing care involves a direct relationship with clients, and in their attempt to be compassionate may be involved emotionally with the health conditions of their clients. Job stressors, unsatisfactory work

conditions and adapting to new roles could also result in them dealing with the emotional strains associated with their care roles.

Relationship between social support and caregivers' quality of life

A significant positive relationship was established between social support and caregivers' quality of life. This indicates that an increase in the level of social support, leads to an appreciable increase in overall quality of life. The literature affirms the protective role of social support against stress, depression, anxiety and quality of life. This finding can be explained in relation to the Stress Process model (Pearlin et al. 1990) where the mediating/moderating role of social support is affirmed. Social support is expected to lessen the burden of care thereby improving the quality of life of caregivers of burns patients.

The informal caregiver of a burns patient in fulfilling this role confronts peculiar challenges in relation to financial constraints, social isolation, work schedules and access to information. For the informal caregiver, the burden of care is felt greatly especially in undertaking major health decisions and assisting with daily activities on behalf of the caregiver. A perceived sense or actual social support from other family members, friends, colleagues and others seems to lessen the burden of care. For social support to impact directly on ones wellbeing, it has to be helpful and meaningful. Ones quality of life is thus enhanced because he/she feels support in relation to the caregiving role can be readily available when challenges set in. For others too, providing this service to a spouse or relative is fulfilling and ensures harmony in the family.

Formal caregivers also benefit tremendously from the provision of social support by family and colleagues at work as earlier stressed on. They have clinical meetings and support groups where experiences are shared and professional support easily assessed. Newly inducted

nurses and the younger ones when confronted with major job stressors and patient demands are often supported by the older nurses. This perceived or actual source of social support tends to enhance the quality of life of those providing care. This finding largely agrees with other studies concerned with the relationship between social support and quality of life (e.g. Amendola et al., 2011; Arai et al., 2008; Lueboonthavatchai & Lueboonthavatchai, 2006).

Social support and psychological health (anxiety and anxiety) of caregivers.

The finding of hypothesis five (a) suggested that there was a significant negative relationship between social support and caregiver anxiety (formal and informal). This points to the fact that, the more social support a caregiver receives or perceives, the lower their reported anxiety symptoms.

Hypothesis five (b) also reported a significant negative relationship between social support and depression. This suggests that, caregivers with more support networks report lower depressive symptoms. The Stress Process Model (Pearlin et al. 1990) predicts that social support will lessen psychological distress (e.g. anxiety and depression).

These findings attest to the buffering role of social support explained in literature. The burns caregiver is often faced with a lot of challenges (e.g. accidental nature of the burns, medical costs involved, congestion at the facility, lack of effective communication etc.) in adjusting to this new role. Often times, they require family assistance, support from friends and professionals to be able to carry on this role effectively. It is this actual or perceived support which serves to mitigate whatever symptoms of depression or anxiety they could be faced with. In Ghanaian society, such social support systems can be readily obtained from the extended family and community. For instance, in Ghana and other African countries, wide family networks including church societies provide support to individuals or groups of people

when social problems such as death or disasters occur (Porter, Hampshire, Kyei, Adjaloo, Rapoo, & Kilpatrick, 2008).

Nurses aside being professionals also operate within the cultural setting and therefore have the support of the traditional family system whenever they face challenges in their roles. Also, they have professional support networks which serve to straighten the career paths of younger nurses and others facing psychological distress. The role of the family cannot be downplayed as Boey (1998) reported that stress-resistant nurses were distinguished by perceived greater family support than distressed nurses. These findings detailing significant negative relationship between social support and anxiety are consistent with other studies on caregiving (Cumming et al., 2008; Stevens et al., 2013). Other studies (Chang et al., 2001; Ashley & Kleinpeter, 2002; Cummins et al., 2008; Khatib, Bhui & Stansfeld, 2013) have also reported significant negative relationship between social support and caregiver depression.

Problem-focused coping and Quality of life among caregivers of burns patients

The study found a statistically significant positive relationship between Problem-focused coping and caregivers' quality of life. This demonstrates that higher use of problem-focused coping enhances the quality of life of the caregiver of a burns patient. Problem-focused coping according to Wood et al., (2007) is primarily aimed at modifying, or eliminating the source of stress itself. Problem-focused coping includes strategies for information gathering, making decisions, planning, and resolution of conflicts. Thus it is expected that with this coping skill, caregivers of burns patients will rather channel their energies into confronting the source of problems and making modifications. Such steps will include seeking professional support, researching on medical condition and scheduling time to meet patient demands. Having effective coping strategies to deal with the stress originating from the caregiving role will in turn result in better quality of life outcomes. This is consistent with the

Transactional model (Lazarus & Folkman, 1984), which states that the outcome of effective coping response leads to adaptation. The Stress Process Model (Pearlin et al. 1990) also posits that effective coping strategies could mitigate the impact of stressors (primary and secondary) associated with caregiving.

The finding of this study is consistent with an earlier comparative study conducted by Chan et al., (2007) involving 328 Australian nurses and 190 New Zealand nurses, where problem-focused coping was associated with better mental health (health related quality of life measure).

Emotion-focused coping and Quality of life among caregivers of burns patients

The study established a significant positive relationship between emotion-focused coping and caregivers' quality of life. This indicates that an increase in use of emotion-focused coping directly leads to an increase in caregiver quality of life. The direction of the relationship is in contrast to what was predicted and thus this hypothesis was not supported. However, the Transaction model predicts that emotion-focused coping will reduce the level of internal emotional distress. The positive relationship established between emotion-focused coping and caregivers' quality of life could be attributed to the complexity of the caregiving role. Lazarus and Folkman (1984) observed that emotion-focused coping was used in health related contexts. They argued that this coping strategy was used when people perceived they lacked the strength to effectively control happenings around them.

Thus, for the burns caregiver, nothing much can be done to alleviate the plight of the patient or remove the source of distress. The major focus for the caregiver is relieving emotional distress associated with the role. This in turn could have a positive impact on the quality of life of the caregiver. However, in contrast to the above points raised, some studies reviewed

(e.g. Myaskovsky et al., 2005; Green, 2009) found a significant negative relationship between caregivers' emotion-focused coping and quality of life.

The moderation effects of coping strategies on relationships between social support and quality of life among burns caregivers.

To determine whether problem-focused coping moderated the relationship between social support and quality of life among burns caregivers, it was shown that problem-focused coping did not significantly moderate the relationship between caregivers' social support and quality of life. Similar result was found for the moderating effect of emotion-focused coping on social support and quality of life. Thus the two hypotheses were not supported in our study. This indicates that even though coping strategies (problem-focused and emotion-focused) may influence quality of life, it does not strengthen or weaken the relationship between social support and quality of life. This finding does not support the Stress Process Model (Pearlin et al. 1990) which affirms the moderating role of coping strategies.

These findings indicate that coping strategies adopted by the caregivers neither strengthen nor weaken the link between their levels of social support and quality of life. This is inconsistent with a study done by Dardas and Ahmad (2013), where they established a mediation and moderation model of coping between stress and quality of life. However, Lin et al. (2010) did not establish a moderating role of coping strategy.

5.2 Recommendations

The recommendations of the present study are categorized under (i) Future Studies, (ii) Health Professionals/Caregivers and (iii) Health Sector.

Future Studies

As a recommendation for future studies, it would be ideal to capture in greater detail the circumstances leading to the assumption of the caregiving role and other patient characteristics (coping style and type or severity of burns) that impact caregiver outcomes. Finally, future research should compare caregiver psychological health outcomes with matched controls of non-caregivers.

Health Professionals/Caregivers

The findings from this study have practical implications for the smooth operation of the caregiving role of formal and informal caregivers in Ghana. The study provides a resource of empirical data from which health professionals can better understand the psychological health implications of caring for a burns patient. It further enhances professionals' understanding of coping strategies adopted by family members when they assume the caregiving role.

The role of clinical psychologists and other mental health professionals is critical to the total rehabilitation of the burns patients and their caregivers. These professionals seek to address the emotional needs of family caregivers by teaching them effective coping strategies, educating them on their relative's illness, and thereby improving their overall quality of life and decreasing psychological symptoms. Clinical psychologists also aim to comprehend and incorporate into their services the anticipations, customs and cultural norms that shape the caregiving experiences of each unique family. There should be readily available services to meet the psychological needs of burns patients and their caregivers. This becomes necessary as earlier research has demonstrated the link between psychological distress of patients and negative outcomes on caregivers' psychological health.

Therefore, supportive and informative services should be targeted towards enhancing the individualized coping strategies of family members to meet the psychological, emotional, social, and health needs of patients afflicted with burns. Finally, the empirical data can be used as a reference point for organizing discharge plan for family members providing care for burns patients or those willing to take on the role.

Health Sector

The findings of this study have varying implications for the health sector in Ghana especially in relation to the provision of mental health services. The first recommendation to the health sector in Ghana will be to adopt a holistic approach in the treatment of burns patients and family caregivers. This is essential as findings of the present study suggest that informal caregivers are at an increased risk of developing mental health problems (anxiety and depression). Therefore, support services should be extended to them and also greater partnership is desired between family caregivers and health personnel in provision of care to patients. In upholding the Bio-Psychosocial model of health care, mental health professionals should be involved in the treatment of burns patients at the Burns Centre. Additionally, it is recommended that refresher courses and in-service training be organized for formal caregivers to sharpen their coping skills and enhance service delivery.

5.3 Limitations of the study

Although this study had several strengths including its use of both formal and informal caregivers and three major psychological health outcomes, there are some limitations that are worthy of mention. First this was not a probability sample as the study involved a special population of relatively few members as compared to the general health population. Thus the

use of convenience sampling was appropriate to recruit the required numbers. The cross-sectional nature of the study also prevented us from drawing definitive causal conclusions about the relationships between caregiver situations and psychosocial factors examined. For instance, several factors not examined could have accounted for the variation in coping strategies used or differences in psychological health outcomes. In relation to the point raised, it will be impossible to predict whether caregivers' experiences might change over a period of time because of the lack of follow-up data.

Another limitation of the present study is that our population consisted of exclusively caregivers of burns patients, thus our findings may not necessarily be representative of caregivers of patients with other physical and mental health conditions.

5.4 Conclusion

Providing care for a patient afflicted with a physical or mental illness has been shown to be associated with comorbid mental health problems such as stress, depression, anxiety and decline in quality of life among others. In the Ghanaian context, the distinctive role of caregivers cannot be overemphasized as cultural norms mandate family members to take of their loved ones in moments of ill-health and distress. Even though caregiving is embedded in our culture, there is a scarcity of research focusing on the lived experience of caregivers of burns patients. Most studies on burns are geared towards prevalence rates, physiological responses, patient characteristics and outcomes. Thus, this study examined the psychological health and coping strategies among formal and informal caregivers of burns patients. The present study utilised the Transactional Model of Stress and Coping (Lazarus & Folkman) and the Stress Process Model (Pearlin et al. 1990) in understanding stressors associated with the caregiving role.

The study outcome demonstrated that formal caregivers reported better improved quality of life, and decline in anxiety and depressive symptoms as compared to informal caregivers. Formal caregivers also adopted more problem-focused coping than informal caregivers but no significant difference was found in the use of emotion-focused coping between the two groups. A significant positive relationship was observed between social support and caregivers' quality of life. Further, social support was significantly and negatively related to caregivers' levels of anxiety and depression. Problem-focused coping and emotion-focused coping related significantly and positively with quality of life. However, the negative relationship predicted between emotion-focused coping and quality of life was not supported.

Moreover, coping strategies (emotion-focused and problem-focused) did not significantly moderate the relationship between social support and quality of life. Additional findings indicated that age of caregivers was significantly and positively associated with the levels of anxiety and depression experienced by caregivers. Age of caregivers was also significantly and negatively associated with overall quality of life (physical, psychological and environmental quality of life). The study found support for the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) and the Stress Process Model (Pearlin et al. 1984).

To sum it up, the outcomes of the study serve as the basis for future studies as there are no studies conducted in our Ghanaian context focusing exclusively on psychological health and coping strategies among caregivers of burns patients. The present study enhanced our understanding of not only non-paid family caregivers but also the caregiving experiences of paid caregivers. The psychological health implications of providing care, the preferred coping styles adopted and availability of social support were all explored in the study.

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APPENDICES

Appendix A:

Questionnaires

CONSENT FORM

Title: Psychological Health and Coping Strategies among Caregivers of Burns Patients

Principal Investigator: [Kevin Bonsu]

Address: [Department of Psychology, University of Ghana-Legon, P. O. Box LG 84, Accra]

General Information about Research

The study aims to examine psychological health and coping strategies among caregivers of Burns patients at the Reconstructive Plastic Surgery and Burns Centre, Korle-Bu Teaching Hospital. Caregivers in this study include both formal (nurses) and informal (spouses, relatives and friends) groups. Socio-demographic characteristics, coping strategies and social support of caregivers will be sought for. Psychological health will be assessed by objective measures of Depression, Anxiety and Quality of life. The caregiver plays a critical role in the total rehabilitation of the Burns patient and various studies reveal the adverse or positive implications of this role on the psychological health of the caregiver.

Eighty (80) caregivers from the Burns Centre will be recruited for the study and they will be required to provide responses to five structured questionnaires including the Multidimensional Scale of Perceived Social Support (MSPSS), Brief COPE, Beck's Anxiety and Depression inventories and the World Health Organization Quality of Life (WHOQOL-BREF) instrument. Each respondent will take between 45 minutes and 1 hour to complete the questionnaires.

Possible Risks and Discomforts

There are no anticipated risks involved in the study as you will not be required to engage in any physical or experimental activity. It is possible that some questions might be sensitive or upsetting to you. If that is the case, you could refuse to answer those questions and would be given the necessary support.

Possible Benefits

This study does not provide you with any direct benefits. It is expected that the results of this study will provide information that will benefit society and will help caregivers to better adapt or improve upon their



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services in their caregiving roles. You will be given the opportunity to ask questions related to psychological health and coping that may be of benefit to you.

Confidentiality

Any identifiable information that is obtained in connection with this study will remain confidential and will be disclosed only with your permission. When the results of the research are published or discussed in conferences, no information will be included to reveal your identity unless your specific consent is sought.

Voluntary Participation and Right to Leave the Research

Your participation in this study is voluntary (not compulsory). We also respect your right to ask us further questions to clear any doubt you may have about any aspect of the study before agreeing to participate. If you choose to participate, you are free to withdraw from this study at any point in time. If you choose not to participate or withdraw it will not lead to a strain in relationship with your own doctors, your relative's doctors or with the Korle-Bu Teaching Hospital.

Contacts for Additional Information

In case of any pertinent questions about the research or need for further clarification, please contact:

Name: Professor S.A Danquah
Mobile no.: 0265191590

Your rights as a Participant

This research has been reviewed and approved by the Institutional Review Board of Noguchi Memorial Institute for Medical Research (NMIMR-IRB). If you have any questions about your rights as a research participant you can contact the IRB Office between the hours of 8am-5pm through the landline 0302916438 or email addresses: nirb@noguchi.mimcom.org or HBaidoo@noguchi.mimcom.org.



VOLUNTEER AGREEMENT

The above document describing the benefits, risks and procedures for the research title (*Psychological health and coping strategies among caregivers of burns patients*) has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

Date_____
Name and signature or mark of volunteer**If volunteers cannot read the form themselves, a witness must sign here:**

I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

Date_____
Name and Signature of Witness

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

Date_____
Name Signature of Person Who Obtained Consent

DEPARTMENT OF PSYCHOLOGYUNIVERSITY OF GHANA, LEGON

I am very grateful for your willingness to partake in this study on Psychological health and coping strategies amongst caregivers of Burns patients. I am undertaking this research in partial fulfilment for the award of an MPhil degree in Clinical Psychology. This research is strictly for academic purposes and information given will be treated as confidential.

Section A: DemographicsCaregiver

Type of caregiver: Informal { } formal [nurse] { }

Duration of caregiving role:

Relationship to patient: spouse { } relative { } parent { } friend { } others { }

Age: Gender: male { } female { }

Marital Status: Single { } Married { } Divorced { } Widowed { }

Highest level of education: None { } Primary { } JSS/Middle { } SSS/O' Level { }
Tertiary { }

Occupation: (does not apply to nurses).....

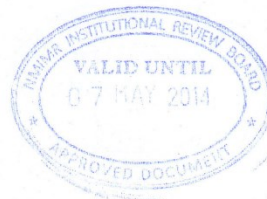
Caregiver's patient

Age: Gender: male { } female { }

Section BBrief COPE

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress.

Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please



answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU--not what you think "most people" would say or do. Indicate what YOU usually do when YOU experience a stressful event.

1 = I haven't been doing this at all

2 = I've been doing this a little bit

3 = I've been doing this a medium amount

4 = I've been doing this a lot

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself "this isn't real."
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe that it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I've been getting help and advice from other people.
11. I've been using alcohol or other drugs to help me get through it.
12. I've been trying to see it in a different light, to make it seem more positive.
13. I've been criticizing myself.
14. I've been trying to come up with a strategy about what to do.
15. I've been getting comfort and understanding from someone.
16. I've been giving up the attempt to cope.
17. I've been looking for something good in what is happening.
18. I've been making jokes about it.
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.



20. I've been accepting the reality of the fact that it has happened.
21. I've been expressing my negative feelings.
22. I've been trying to find comfort in my religion or spiritual beliefs.
23. I've been trying to get advice or help from other people about what to do.
24. I've been learning to live with it.
25. I've been thinking hard about what steps to take.
26. I've been blaming myself for things that happened.
27. I've been praying or meditating.
28. I've been making fun of the situation.

Section C

Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet & Farley, 1988)

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you **Very Strongly Disagree**

Circle the "2" if you **Strongly Disagree**

Circle the "3" if you **Mildly Disagree**

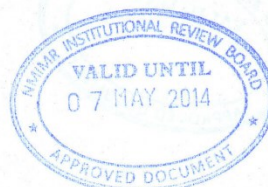
Circle the "4" if you are **Neutral**

Circle the "5" if you **Mildly Agree**

Circle the "6" if you **Strongly Agree**

Circle the "7" if you **Very Strongly Agree**

		1	2	3	4	5	6	7	
1.	There is a special person who is around when I am in need								SO
2.	There is a special person with whom I can share my joys and sorrows.								SO
3.	My family really tries to help me								Fam
4.	I get the emotional help and support I need from my family.								Fam
5.	I have a special person who is a real source of comfort to me.								SO
6.	My friends really try to help me.								Fri
7.	I can count on my friends when things go wrong.								Fri
8.	I can talk about my problems with my family.								Fam



Section E**Beck's Depression Inventory**

Instructions: Please circle the number by the response for each question that best describes how you have felt during the past seven (7) days. Please do not omit any questions. Make sure you check one answer for each question. If more than one answer applies to how you have been feeling, check the higher number. If in doubt, make your best guess.

1. 0 - I do not feel sad.
1 - I feel sad.
2 - I am sad all the time and I can't snap out of it.
3 - I am so sad or unhappy that I can't stand it.
2. 0 - I am not particularly discouraged about the future.
1 - I feel discouraged about the future.
2 - I feel I have nothing to look forward to.
3 - I feel that the future is hopeless and that things cannot improve.
3. 0 - I do not feel like a failure.
1 - I feel I have failed more than the average person.
2 - As I look back on my life, all I can see is a lot of failures.
3 - I feel I am a complete failure as a person.
4. 0 - I get as much satisfaction out of things as I used to.
1 - I don't enjoy things the way I used to.
2 - I don't get real satisfaction out of anything anymore.
3 - I am dissatisfied or bored with everything.
5. 0 - I don't feel particularly guilty.
1 - I feel guilty a good part of the time.
2 - I feel quite guilty most of the time.
3 - I feel guilty all of the time.
6. 0 - I don't feel I am being punished.
1 - I feel I may be punished.
2 - I expect to be punished.
3 - I feel I am being punished
7. 0 - I don't feel disappointed in myself.
1 - I am disappointed in myself.
2 - I am disgusted with myself.
3 - I hate myself.
8. 0 - I don't feel I am any worse than anybody else.
1 - I am critical of myself for my weaknesses or mistakes.
2 - I blame myself all the time for my faults.
3 - I blame myself for everything bad that happens.



9. 0 - I don't have any thoughts of killing myself.
1 - I have thoughts of killing myself, but I would not carry them out.
2 - I would like to kill myself.
3 - I would kill myself if I had the chance.
10. 0 - I don't cry any more than usual.
1 - I cry more now than I used to.
2 - I cry all the time now.
3 - I feel like crying, but I can't.
11. 0 - I am no more irritated by things than I ever am.
1 - I am slightly more irritated now than usual.
2 - I am quite annoyed or irritated a good deal of the time.
3 - I feel irritated all the time now.
12. 0 - I have not lost interest in other people.
1 - I am less interested in other people than I used to be.
2 - I have lost most of my interest in other people.
3 - I have lost all of my interest in other people.
13. 0 - I make decisions about as well as I ever could.
1 - I put off making decisions more than I used to.
2 - I have greater difficulty in making decisions than before.
3 - I can't make decisions at all anymore.
14. 0 - I don't feel that I look any worse than I used to.
1 - I am worried that I am looking old or unattractive.
2 - I feel that there are permanent changes in my appearance that make me look unattractive.
3 - I believe that I look ugly.
15. 0 - I can work about as well as before.
1 - It takes an extra effort to get started at doing something.
2 - I have to push myself very hard to do anything.
3 - I can't do any work at all.
16. 0 - I can sleep as well as usual.
1 - I don't sleep as well as I used to.
2 - I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 - I wake up several hours earlier than I used to and cannot get back to sleep.
17. 0 - I don't get more tired than usual.
1 - I get tired more easily than I used to.
2 - I get tired from doing almost anything.
3 - I am too tired to do anything.
18. 0 - My appetite is no worse than usual.
1 - My appetite is not as good as it used to be.
2 - My appetite is much worse now.



3 - I have no appetite at all anymore.

19. 0 - I haven't lost or gained much weight, if any, lately.
 1 - I have lost or gained more than five pounds.
 2 - I have lost or gained more than ten pounds.
 3 - I have lost or gained more than fifteen pounds.
20. 0 - I am no more worried about my health than usual.
 1 - I am worried about physical problems such as aches and pains, or upset stomach, or constipation.
 2 - I am very worried about physical problems and it's hard to think of much else.
 3 - I am so worried about my physical problems that I cannot think of anything else.
21. 0 - I have not noticed any recent change in my interest in sex.
 1 - I am less interested in sex than I used to be.
 2 - I am much less interested in sex now.
 3 - I have lost interest in sex completely.

Section F

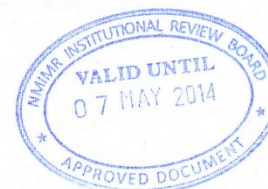
The World Health Organization Quality of Life (WHOQOL)-BREF

The following questions ask how you feel about your quality of life, health, or other areas of your life. I will read out each question to you, along with the response options. Please choose the answer that appears most appropriate. If you are unsure about which response to give to a question, the first response you think of is often the best one.

Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life in the last four weeks.

		Very poor	Poor	Neither poor nor good	Good	Very good
1.	How would you rate your quality of life?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
2.	How satisfied are you with your health?	1	2	3	4	5



The following questions ask about how much you have experienced certain things in the last four weeks.

		Not at all	A little	A moderate amount	Very much	An extreme amount
3.	To what extent do you feel that physical pain prevents you from doing what you need to do?	5	4	3	2	1
4.	How much do you need any medical treatment to function in your daily life?	5	4	3	2	1
5.	How much do you enjoy life?	1	2	3	4	5
6.	To what extent do you feel your life to be meaningful?	1	2	3	4	5

		Not at all	A little	A moderate amount	Very much	extremely
7.	How well are you able to concentrate?	1	2	3	4	5
8.	How safe do you feel in your daily life?	1	2	3	4	5
9.	How healthy is your physical environment?	1	2	3	4	5

The following questions ask about how completely you experience or were able to do certain things in the last four weeks.

		Not at all	A little	Moderately	Mostly	completely
10.	Do you have enough energy for everyday life?	1	2	3	4	5
11.	Are you able to accept your bodily appearance?	1	2	3	4	5
12.	Have you enough money to meet your needs?	1	2	3	4	5
13.	How available to you is the information that you need in your day-to-day life?	1	2	3	4	5
14.	To what extent do you have the opportunity for leisure activities?	1	2	3	4	5



		Very poor	Poor	Neither poor nor good	Good	Very good
15.	How well are you able to get around?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
16.	How satisfied are you with your sleep?	1	2	3	4	5
17.	How satisfied are you with your ability to perform your daily living activities?	1	2	3	4	5
18.	How satisfied are you with your capacity for work?	1	2	3	4	5
19.	How satisfied are you with yourself?	1	2	3	4	5
20.	How satisfied are you with your personal relationships?	1	2	3	4	5
21.	How satisfied are you with your sex life?	1	2	3	4	5
22.	How satisfied are you with the support you get from your friends?	1	2	3	4	5
23.	How satisfied are you with the conditions of your living place?	1	2	3	4	5
24.	How satisfied are you with your access to health services?	1	2	3	4	5
25.	How satisfied are you with your transport?	1	2	3	4	5

The following question refers to how often you have felt or experienced certain things in the last four weeks.

		Never	Seldom	Quite often	Very often	always
26.	How often do you have negative feelings such as blue mood, despair, anxiety, depression?	5	4	3	2	1



Appendix B: Ethical Clearance

NOGUCHI MEMORIAL INSTITUTE FOR MEDICAL RESEARCH
Established 1979 *A Constituent of the College of Health Sciences*
University of Ghana

INSTITUTIONAL REVIEW BOARD

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 E-mail: nirb@noguchi.mimcom.org
 Telex No: 2556 UGL GH



Post Office Box LG 581
 Legon, Accra
 Ghana

My Ref. No: DF.22
 Your Ref. No:

8th May, 2013

ETHICAL CLEARANCE

FEDERALWIDE ASSURANCE FWA 00001824

IRB 00001276

NMIMR-IRB CPN 095/12-13

IORG 0000908

On 8th May, 2013, the Noguchi Memorial Institute for Medical Research (NMIMR) Institutional Review Board (IRB) at a full board meeting reviewed and approved your protocol titled:

TITLE OF PROTOCOL : **Psychological Health and Coping Strategies among Caregivers of Burns Patients**

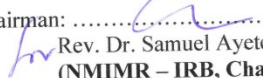
PRINCIPAL INVESTIGATOR : **Mr. Kevin Bonsu, MPhil Candidate**

Please note that a final review report must be submitted to the Board at the completion of the study. Your research records may be audited at any time during or after the implementation.

Any modification of this research project must be submitted to the IRB for review and approval prior to implementation.

Please report all serious adverse events related to this study to NMIMR-IRB within seven days verbally and fourteen days in writing.

This certificate is valid till 7th May, 2014. You are to submit annual reports for continuing review.

Signature of Chairman:

 Rev. Dr. Samuel Ayete-Nyampong
 (NMIMR – IRB, Chairman)

cc: Professor Kwadwo Koram
 Director, Noguchi Memorial Institute
 for Medical Research, University of Ghana, Legon

Appendix C: Departmental Introductory letter



UNIVERSITY OF GHANA
DEPARTMENT OF PSYCHOLOGY

Tel: (233-0302) 500381 Ext. 3754/3310 P. O. Box LG 84, Legon Ghana E-mail: psychology@ug.edu.gh
028 955 04 63

PSYC 2/33/01

May 20, 2013

Our Ref. No.....

The Head
Reconstructive Plastic Surgery and Burns Centre
Korle-bu Teaching Hospital
Accra

Dear Sir/Madam,

LETTER OF INTRODUCTION
KEVIN BONSU

The above-named is an M.Phil Clinical Psychology student in the Department of Psychology, University of Ghana, Legon.

In partial fulfillment of the requirement for the awards of the M.Phil degree, **Kevin Bonsu** has to write and submit an original thesis.

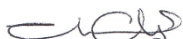
He has selected the topic: "**Psychological Health And Coping Strategies Among Caregivers Of Burns Patients**".

To enable him collect data for his work he would need to administer questionnaires and/or conduct interviews. He has selected your institution as suitable for his data collection.

Any assistance you may give him would be greatly appreciated.

Thank you for your co-operation.

Yours faithfully,


Dr. Charity S. Akotia
(Head of Department)