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The Care Burden Among Nurses

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Abstract

Studies indicate that "care burden" is used to describe individuals who provide care by assisting older adults suffering from chronic illnesses. Care burden is defined as the financial, physical, and psychological consequences associated with the caregiver's responses and attitudes toward the demands of caregiving.

Keywords: *Media Convergence Era; Broadcasters And Presenters; Dilemmas And Opportunities; Radio And Television; Digital Technology*

Introduction

The present study aimed to:

1. Assess the level of care burden among nurses.

2. Examine statistically significant differences in care burden based on the following variables:
a. Gender (male – female)

b. Age (20–35), (36 and above)

c. Years of service (1–15), (16 and above)

d. Educational attainment (secondary education – bachelor's degree).

3. Investigate the interaction effect of care burden among the variables (gender, age, years of service, and educational attainment).

To achieve the research objectives, the researchers adopted the Caregiver Burden Scale developed by Zarit et al. (1990), based on Zarit's theory of caregiver burden. The scale demonstrated reliability coefficients of 0.85 using Cronbach's alpha and 0.81 using the test-retest method.

The study sample consisted of 400 male and female nurses selected through stratified random sampling from eight hospitals under the Directorate of Health in Al-Rusafa, Al-Karkh, and the Medical City Directorate. The sample was categorized by gender (male/female), age (20–35)/(36 and above), years of service (1–15)/(16 and above), and educational attainment (secondary/bachelor's). Data were analyzed using the Statistical Package for the Social Sciences (SPSS). The researchers obtained the following results:

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1. Nurses reported a high level of care burden, with a mean score of 78, exceeding the theoretical mean of 72, indicating a high level of care burden among the study sample.

2. A statistically significant difference in care burden was found based on gender, in favor of females. The calculated F-value was 4.34, exceeding the critical F-value of 3.83 at the 0.05 significance level with degrees of freedom (1, 355).

3. A statistically significant difference in care burden was found based on age (20–35 vs. 36 and above), in favor of the 20–35 age group. The calculated F-value was 5.46, exceeding the critical F-value of 3 at the 0.05 significance level with degrees of freedom (2, 355).

4. A statistically significant difference in care burden was found based on years of service (1–15 vs. 16 and above), in favor of the 1–15 years group. The calculated F-value was 4.16, exceeding the critical F-value of 3 at the 0.05 significance level with degrees of freedom (3, 355).

5. A statistically significant difference in care burden was found based on educational attainment (secondary vs. bachelor's degree), in favor of secondary education. The calculated F-value was 27.21, exceeding the critical F-value of 3 at the 0.05 significance level with degrees of freedom (4, 355).

6. No statistically significant interaction was found among the variables (gender, age, years of service, and educational attainment).

The study concluded with several recommendations, including:

1. Collaboration between the Ministry of Health and civil society organizations to utilize assessment tools in diagnosing weaknesses and deficiencies in nurses' relative proficiency in hospitals and health centers, and to conduct training courses organized by the Ministry of Health to improve the quality of nursing practice in Iraq.

2. Coordination with the Ministry of Education and Higher Education to guide students in nursing high schools, institutes, and colleges, especially those appointed through centralized employment, to adhere to professional values and ethics to overcome pressures and moral distress, thereby achieving proficiency in the nursing profession through conferences, seminars, and workshops in collaboration with the Ministry of Health and relevant officials to elevate nursing practice and promote development and innovation in this humanitarian field.

Suggestions for Future Research:

Investigating care burden in relation to variables not addressed in the current study, such as ethical dilemmas, ethical climate, personal values and beliefs, and organizational support.

Chapter One

Research Problem

The term *"care burden"* is used to describe individuals who provide care by assisting older adults suffering from chronic illnesses. This care encompasses providing support to those in need, whether through healthcare services, economic assistance, or social care. Care burden represents a significant challenge for many societies, as it demands substantial resources and capacities to address the growing number of individuals requiring such care (Mausbach et al., 2007).

Individuals may provide care for their ill or elderly spouses, relatives, parents, or even friends. Every human being will experience aging at some point, and the patient’s condition may increase the burdens and pressures on caregivers, leading to family conflicts, financial difficulties, work-related challenges, and reduced leisure time. Caregivers in such circumstances may experience negative effects, including physical, social, and psychological health issues. Subjective stress refers to the psychological reactions caregivers undergo, such as sadness, shame, frustration, and other emotional strains when dealing with problematic behaviors (Gérain & Zech, 2019).

Studies have indicated that caregivers of older adults experience higher levels of psychological burden and distress—such as stress, anxiety, and depression—compared to non-caregivers due to the demanding and stressful nature of caregiving. Furthermore, spousal caregivers, particularly older spouses, report higher levels of burden, poorer mental health, and lower life satisfaction compared to caregivers from other family relationships (Kunkle et al., 2020, p. 21). Caregivers also tend to experience greater physical stress. Caregivers employed full-time reported worse physical health compared to their non-caregiving counterparts. Reports showed that 16% of full-time caregivers had a physical health index of 77.4%, significantly lower than the 83% reported among non-caregivers (Wehei, 2018).

It is estimated that up to 70% of caregivers suffer from clinically significant depressive symptoms, with 20% of them being working women. Full-time caregivers exhibit the greatest deficits in physical and emotional health. Reports highlight a correlation between caregivers’ physical and mental health and their income and educational levels. One of the core values for most caregivers is being present for their loved ones in times of need. However, it is evident that role changes and emotional shifts are inevitable. It is common for caregivers to experience feelings of anger, frustration, exhaustion, loneliness, or even grief. Caregivers are exposed to physical, financial, and emotional strain. Individuals experiencing caregiver stress are at risk for health changes and adverse health outcomes (Sigelman & Rider, 2015).

In light of the above, the current study raises the following research question: **“Do nurses experience care burden?”**

Significance of the Study

The nursing profession holds a pivotal position in the provision of healthcare services, playing a critical role in ensuring the well-being and quality of life of diverse populations. Nurses are entrusted with direct patient care, assisting in diagnosis and treatment, advocating for patients' rights, and providing emotional support. Beyond these responsibilities, nursing plays an active role in promoting health education, preventing illness, ensuring safe and effective treatment management, and collaborating with other healthcare professionals to deliver comprehensive care. Additionally, nursing involves delivering tailored care to different community groups, contributing to research and evidence-based practice, and fulfilling a vital role in disaster management and emergency response. Given its wide scope and diverse opportunities, nursing is not merely a profession of caregiving but also offers job security, psychological stability, and financial sustainability for its practitioners.

Patient care entails assisting with both basic and complex daily activities, supporting medical and therapeutic needs, as well as providing emotional comfort and reassurance. The act of caregiving is a journey that most individuals experience at some point in their lives. For example, parents assume caregiving roles for their children; in some cases, this role extends longer when caring for adult children with disabilities (May, 2021, p. 14).

Caregivers are essential in reducing the need for institutional healthcare services for older adults or patients with chronic illnesses. Consequently, elderly individuals can remain close to their families, enabling them to live longer within their communities. Family caregiving also contributes to lowering healthcare costs, addressing a significant concern. Therefore, home care offers a positive balance between cost and efficiency by reducing healthcare expenditures (Nemati et al., 2017, p. 44).

The perceived burden is associated with a diminished sense of control; nurses often face a substantial caregiving burden and moral distress in their roles, particularly when they experience inadequate professional adaptation, leaving them less capable of effectively handling challenging situations (Cairney & Krause, 2008, p. 45).

In line with the above, investigating the care burden among nurses represents an important area of study within psychology. Understanding the factors influencing nurses' capacity to enhance the quality of nursing care and ultimately improve patient outcomes is crucial. Moreover, this study enables the identification of challenges and obstacles nurses face in maintaining competence and proficiency. The findings of the current research may inform guidelines and policies related to nursing practice, foster professional development among nurses, and play a critical role in reducing burnout and psychological stress. This underscores the importance of conducting further research and studies in this field.

Research Objectives

The present study aims to investigate the following:

1. The level of caregiving burden among nurses.
2. The significance of differences in caregiving burden according to the following variables:
    - ○ Gender (male – female)
    - ○ Age (20–35; 36 and above)
    - ○ Years of service (1–15; 16 and above)
    - ○ Educational attainment (secondary school – bachelor's degree)
3. The interaction effect in caregiving burden among the variables (gender, age, years of service, and educational attainment).

Limits of the Research

The population of the current research is defined as nurses working in public hospitals in Baghdad during the year 2024.

Definition of Terms

1. Caregiving Burden

- *Zarit (1980)*: "The objective and subjective interpretations of the stresses related to the well-being of both the caregiver and the care recipient, as well as the caregiver's perception of their emotions, physical health, social life, and financial situation as a consequence of providing care to individuals in need."
- *Pearlin et al. (1990)*: "The behavioral expression of an individual's perceived

commitment to the welfare or protection of another person, reflected in the physical, emotional, and psychological impact of continuous caregiving for patients."

- *Gérain & Zech (2019)*: "The suffering experienced by individuals while providing support to people in need, whether through healthcare, economic support, or social care."
- *Liu et al. (2020)*: "The physical, emotional, social, and financial stresses experienced by caregivers in maintaining consistent care for others."

Caregiver: A caregiver is defined as a professional, a family member, or a paid assistant (e.g., a nurse) who provides care for a disabled person, an elderly individual, a patient, or a child.

Theoretical Definition

The present study adopts *Zarit's (1990)* theoretical definition, which states: "The objective and subjective interpretations of the stresses related to the well-being of both the caregiver and the care recipient, as well as the caregiver's perception of their emotions, physical health, social life, and financial situation as a consequence of providing care to individuals in need."

Operational Definition

The operational definition is the total score obtained by the respondent on the instrument used in the current study to measure caregiving burden among nurses.

Chapter Two

Theoretical Framework

First: The Burden of Healthcare

The concept of *family burden* was first introduced in the literature by Grad and Sainsbury in 1966 during their study on community care for individuals with mental illnesses. They defined the burden as any costs or negative consequences borne by the family to which the patient belongs. In this context, the burden is understood as an intermediary force between the patient's disability (such as mental illness or physical disability) and the impact of caregiving on the well-being and lives of caregivers and their family members (Grad & Sainsbury, 1966, p.14).

The term *caregiving burden* is used to describe individuals who provide care by assisting those who suffer. This includes providing support to people in need, whether through healthcare, economic assistance, or social care. The caregiving burden is considered a significant challenge for many communities, as it requires substantial resources and capacities to manage the growing number of individuals in need of such care (Dunkin et al., 1998, p.53).

Caregivers face considerable challenges in attending to patients' needs and symptoms, as well as emotional challenges in coping with the ongoing decline of a loved one. Additionally, they experience a loss of independence, increased social isolation, and financial pressures. As a result, caregivers often exhibit higher levels of stress and depression, poorer physical health, and lower levels of work performance compared to others. Moreover, the level of burden experienced by caregivers can vary significantly (Zarit et al., 1989, p.20).

Caregiving burden refers to the pressures and challenges faced by individuals who provide continuous care for others suffering from chronic conditions, disabilities, or illnesses such as Alzheimer's disease, age-related diseases, or physical and mental disabilities. This burden encompasses multiple dimensions affecting caregivers emotionally, physically, socially, and financially. Caregiving is a journey that most people undergo at some point in their lives; for example, parents act as caregivers for their children, and some continue in this role longer when caring for adult children living with disabilities (Chein et al., 2011, p.1089).

Zarit's Caregiving Burden Theory (1980)

Zarit's (1980) theory indicated that the majority of caregivers were dissatisfied with their working hours and staffing levels. Approximately 30% of caregivers reported that their relationships with colleagues had deteriorated due to workload. This situation was found to be associated with workplace discrimination, described by caregivers as a lack of teamwork. It also negatively impacted the quality of caregivers' work lives. Evidence in the literature shows that this leads caregivers to feelings of loneliness and exclusion, increasing their stress levels. The study's findings reveal that caregivers place great importance and value on their work; they believe their role has a spiritual dimension and is tied to their beliefs, which they express through terms like *patience* and *great love*. This finding aligns with existing literature (Zarit et al., 1980, p.645).

Research shows that caregivers feel they are doing something worthwhile and see themselves as needed. The findings also indicate that formal caregivers feel responsible for the older adults they care for. Caregivers reported that elderly individuals consider them their sole source of support and expect them to show care and concern. This issue was raised during interviews, suggesting that caregivers provide care to elderly individuals as if they were their own parents. This interpretation is supported in the literature by the notion that caregivers treat patients like children and do their utmost when caring for the elderly (Zarit et al., 1980, p.675).

Zarit developed the *Caregiver Burden Scale* as a widely used tool to measure the burden felt by caregivers. This scale, developed by Zarit and colleagues in 1980, is primarily used to assess the impact of caregiving on individuals who provide care to patients, particularly in cases of chronic illnesses or mental disabilities. The scale comprises several key domains that assess different aspects of the burden caregivers may encounter.

Zarit's 1980 study (Zarit et al., 1980) identified a range of physical, mental, social, and economic problems faced by caregivers, which affect their recreational activities, social relationships, friendships, intimacy, freedom, and emotional balance. Caregivers become vulnerable from a health perspective due to the multifaceted nature of the caregiving burden. This includes social isolation, overload from activities both inside and outside the home, changes in the behavior of family members receiving care, the notion of being "exclusively responsible" for their families, financial difficulties, and job abandonment, among other challenges. In the context of elder care, the burden has been assessed both objectively and subjectively. *Subjective burden* refers to negative perceptions and emotions associated with the caregiving experience, while *objective burden* is defined as the set of demands and activities that caregivers must attend to. Objective burden is one of the criteria for harm incurred by caregivers in daily life.

In 2009, Zarit and colleagues (Zarit et al., 2009) highlighted the consequences of caregiving and identified its impact on caregivers' basic needs, concluding that approximately 75% of the studied individuals experienced deterioration in their lives, exposing them to disruptions in their basic needs and compromising their well-being (Zarit et al., 2009, p.730).

The 2009 study by Zarit and colleagues aimed to identify the most influential factors affecting the caregiving burden among adult caregivers providing care to recipients in home care settings. The research posed the following analytical questions: What is the effect of (1) the sociodemographic characteristics of care recipients and caregivers; (2) care-related characteristics; (3) family, work, and financial characteristics of caregivers; and (4) the use of social support and resources on caregivers' burden in home care settings?

The lives of family members assuming caregiving roles are significantly affected; caregiving burdens can lead to marital, professional, and emotional problems. Evidence suggests that parents caring for children with intellectual disabilities experience elevated levels of stress, anxiety, depression, sleep deprivation, and reduced quality of life. They also tend to withdraw from recreational activities and hobbies. *Caregiver burnout* refers to the level of stress experienced by a caregiver while providing long-term care for a family member or loved one. Objective elements of burnout include the time and effort devoted to tasks related to the care recipient, as the caregiver bears full responsibility. Subjective elements are derived from the caregiver's emotional and social perceptions and role, such as fatigue, inequity, emotional distress, and stress (Zarit et al., 2009, p.29).

Chapter Three

Research Methodology and Procedures

First: Research Methodology

The researcher adopted the **descriptive method** as it is the most appropriate research approach for the nature and objectives of this study.

Second: Research Population

The research population was defined as **nurses working within the healthcare sector in the Rusafa Health Directorate, Karkh Health Directorate, and the Medical City Health Directorate**, including both males and females for the year 2024. Table (1) presents the number of nurses in Baghdad Governorate, categorized by gender (male, female), as shown below:

No.	**Hospital Name**	**Males**	**Females**	**Total**
Rusafa Health Directorate				
1	Al-Numan Hospital	101	156	257
Karkh Health Directorate				
2	Al-Kadhimiya Teaching Hospital	357	481	838
3	Al-Karama Teaching Hospital	274	129	403
Medical City Health Directorate				
4	Ghazi Al-Hariri Hospital	228	276	504
5	Child Protection Hospital	187	103	290
6	Baghdad Teaching Hospital	311	376	687
7	Gastroenterology Hospital	28	95	123
8	Private Nursing Hospital	111	132	243

Total		1597	1748	3345

Table (1) Distribution of the Research Population By Gender

Third: Research Sample

After identifying the research population, a research sample was selected for the purposes of **item analysis and extraction of the psychometric properties** necessary for developing the Care Burden Scale used in the current study. The sample was drawn from **eight hospitals randomly selected** from the research population, ensuring **equal selection by gender (male – female)** proportional to their numbers in each of the eight randomly selected hospitals, as well as proportional distribution by hospital.

The research sample consisted of **400 nurses**: **200 male nurses and 200 female nurses**. The total number of nurses in the research population was 3345, and thus the sample represented approximately **12% of the population**. Table (2) presents the equal distribution of the sample by gender:

No.	**Hospitals**	**Sample Size**		**Total**
		Males	Female	
Rusafa Health Directorate				
1	Al-Numan Hospital	25	25	50
Karkh Health Directorate				
2	Al-Kadhimiya Teaching Hospital	25	25	50
3	Al-Karama Teaching Hospital	25	25	50
Medical City Health Directorate				
4	Ghazi Al-Hariri Hospital	25	25	50
5	Child Protection Hospital	25	25	50
6	Baghdad Teaching Hospital	25	25	50
7	Gastroenterology Hospital	25	25	50
8	Private Nursing Hospital	25	25	50
Total		200	200	400

Table (2) Equal Distribution of the Research Sample By Gender

The sample was also distributed by **educational attainment** as follows: Among males, 100 nurses held **high school diplomas**, and 100 held **bachelor's degrees**. Similarly, among females, 100 nurses held **high school diplomas** and 100 held **bachelor's degrees**. Table (3) illustrates this distribution:

Gender	**Educational Attainment**		**Total**
	High School	Bachelor's	
Male	100	100	200

Female	100	100	200
Total	200	200	400

Table (3) Distribution of the Research Sample by Educational Attainment

The sample was further categorized by **years of service** as follows:

Gender	**Years of Service**		**Total**
	(1-15 years)	(16+ years)	
Male	100	100	200
Female	100	100	200
Total	200	200	400

Table (4) Distribution of the Research Sample by Years of Service

This sample was selected using **stratified random sampling with proportional allocation**, according to gender and educational attainment, given that the research population consisted of males and females. According to Nunnally (1978), the sample size required to establish construct validity should be **5 to 10 times the number of items** (Odeh & Khalil, 1988, p.178), a criterion adopted by the researcher in determining the sample size. Thus, the construction sample consisted of **400 participants**, equally distributed by gender.

Table (5) presents the samples, their sizes, the purpose of their use, and the sources from which they were drawn:

No.	**Type of Sample**	**Sample Size**	**Purpose of Use**	**Source**
1	Random	50	To assess clarity of the research tools' instructions, items, and alternatives	Research Population
2	Random	400	To determine the discriminatory power of the research tools	
3	Random	80	To calculate the reliability of the two scales	
4	Random	400	Application sample for achieving research objectives	

Table (5) Samples, Their Sizes, Purpose, and Source

Third: Research Instrument

The Caregiving Burden Scale

In order to adopt the **Caregiving Burden Scale**, the researcher followed the steps outlined below:

1. Theoretical Definition of the Caregiving Burden Variable

The researcher established the theoretical definition of caregiving burden by adopting the definition of Zarit (1990), which states:

“Caregiving burden encompasses both objective and subjective interpretations of the stresses associated with the well-being of the caregiver and the care recipient.” The study was thus based on Zarit’s (1990) theory of caregiving burden.

2. Review of Existing Scales

To collect and prepare the items for the Caregiving Burden Scale, the researcher reviewed several established measures of caregiving burden, including:

- Zarit et al. (1990): **Zarit Burden Interview (ZBI)**
- Novak & Guest (1989): **Caregiver Burden Inventory (CBI)**
- Montgomery et al. (1985): **Caregiver Burden Scale for Older Adults**

3. Review of Previous Studies

The researcher also examined various studies addressing caregiving burden, including those by Elmståhl et al. (1996), Raina et al. (2004), and Zarit et al. (1990). The review revealed that most of these scales were based on experimental approaches and on samples different from those targeted in the present research. Therefore, the researcher decided to adopt **Zarit’s (1990) Caregiving Burden Scale**, drawing on both Zarit’s theoretical framework and empirical foundation.

4. Translation Validity of the Caregiving Burden Scale

The researcher adopted Zarit’s (1990) Caregiving Burden Scale, which consists of **24 items** distributed across five dimensions:

- **Time-dependence burden** (Items 1–5)
- **Developmental burden** (Items 6–10)
- **Physical burden** (Items 11–15)
- **Social burden** (Items 16–19)
- **Emotional burden** (Items 20–24)

Thus, the scale comprises 24 items covering five domains. To ensure **translation validity**, the initial English version of the scale was translated into Arabic by two experts in English language (see footnote*). The researcher then reconciled the two Arabic translations into a single unified Arabic version. This Arabic version was subsequently back-translated into English by two additional experts in English language. Finally, the researcher presented both the original and the back-translated versions to a psychology expert to assess their equivalence. The expert indicated a **92% correspondence** between the original and translated versions.

The scale uses a **five-point Likert response format**:

1. Always applies to me
2. Often applies to me
3. Sometimes applies to me
4. Rarely applies to me
5. Never applies to me

(as shown in Appendix 2). The researcher adopted Zarit's (1990) theoretical framework and previous studies to guide the development of the scale. Each item had five response options, scored **1 to 5 for positive items** and **5 to 1 for negative items**. Based on this process, the researcher finalized a scale of **24 items** reflecting caregiving burden, grounded in the theoretical framework and empirical literature.

5. Preparation of Scale Instructions

Based on feedback from a pilot sample of **40 nurses**, the researcher prepared clear and precise instructions for administering the Caregiving Burden Scale, emphasizing that respondents should provide their **personal opinions independently** without being influenced by others' views.

6. Expert Review of the Instrument for Content Validity

The instrument was presented to a panel of experts who were asked to evaluate the items' relevance and effectiveness in measuring the intended construct. The researcher adopted a minimum **acceptance threshold of 80% agreement** for an item to be considered valid. The review resulted in **100% agreement** among the experts regarding the validity of all items on the Caregiving Burden Scale.

*Footnote:

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- Dr. Ibtihal Mahdi Abdul Kareem, University of Baghdad, College of Languages, Consulting Office
- Asst. Prof. Dr. Marwa Alaa, University of Baghdad, College of Arts, Department of English

7. Exploratory Application:

The aim of this application is to assess the clarity of the items of the scale and its instructions and to determine how clear they are to the participants (Farag, 1985, p. 160). To achieve this goal, the scale was administered to a sample of 40 nurses, randomly selected, and evenly distributed according to gender, age, and educational level (preparatory or bachelor's degree), as shown in Table (6).

No.	Hospital Name	Males	Females	Total
1	Al-Noman Hospital	5	5	10
2	Al-Kadhimiyah Teaching Hospital	5	5	10
3	Al-Karama Teaching Hospital	5	5	10
4	Ghazi Al-Hariri Hospital	5	5	10
Total		20	20	40

Table (6): Exploratory Sample

The researcher was able to confirm that the instructions and items of the scale were clear to the respondents and did not require any changes or revisions. The time taken to answer the scale items ranged from 10 to 22 minutes.

Statistical Analysis of the Items

1. Distinguishing Items

After completing the correction of the 400 questionnaires, the total score for each questionnaire was calculated using the SPSS statistical software, and invalid responses were excluded due to inaccuracies or missing items. The researcher employed several methods in the analysis process, including:

1. The Extremity Groups Method: The researcher applied the extremity groups method and considered the items with calculated t-values greater than the table value of 1.96 as significant, indicating statistical significance at the 0.05 level and 214 degrees of freedom (Allam, 2010, p. 615). Based on this procedure, all 24 items of the care burden scale were found to be significant at the 0.05 significance level, with 214 degrees of freedom. Table (7) below shows this.

Item No.	Group	Mean	Standard Deviation	Calculated t-value	Significance
1	High	2.15	1.26	5.57	Significant
	Low	1.35	0.79		
2	High	4.21	1.16	7.55	Significant
	Low	2.91	1.37		
3	High	4.16	1.06	6.84	Significant
	Low	3.07	1.26		
4	High	3.25	1.28	4.93	Significant
	Low	2.42	1.21		
5	High	3.64	1.38	7.21	Significant
	Low	2.41	1.12		
6	High	3.82	1.17	8.34	Significant
	Low	2.44	1.27		
7	High	3.81	1.28	8.43	Significant
	Low	2.35	1.26		

8	High	4.10	1.04	11.62	Significant
	Low	2.45	1.04		
9	High	3.13	1.29	10.20	Significant
	Low	1.57	0.92		
10	High	4.01	1.16	13.26	Significant
	Low	1.89	1.19		
11	High	4.50	0.98	5.82	Significant
	Low	3.62	1.23		
12	High	3.94	1.17	9.33	Significant
	Low	2.41	1.25		
13	High	3.99	1.11	10.03	Significant
	Low	2.39	1.23		
14	High	3.02	1.25	12.08	Significant
	Low	1.37	0.66		
15	High	3.62	1.35	12.13	Significant
	Low	1.64	1.03		
16	High	4.17	1.11	9.51	Significant
	Low	2.60	1.30		
17	High	4.55	0.75	12.71	Significant
	Low	2.77	1.24		
18	High	3.64	1.25	9.46	Significant
	Low	2.10	1.14		
19	High	3.19	1.31	10.30	Significant
	Low	1.57	0.96		
20	High	4.07	1.26	12.51	Significant
	Low	2.06	1.10		
21	High	2.31	1.43	5.96	Significant
	Low	1.37	0.82		
22	High	4.06	1.04	13.56	Significant
	Low	2.18	1.00		
23	High	3.67	1.20	9.80	Significant
	Low	2.15	1.07		
24	High	3.96	1.18	8.20	Significant
	Low	2.55	1.36		

Table (7): Discriminatory Power of the Care Burden Scale Using the Extremity Groups Method

From the table above, it is clear that all the items are significant because their calculated t-values are higher than the table value of 1.96 at the 0.05 significance level with 214 degrees of freedom.

2. Internal Consistency Method

a. **Item-Total Score Correlation**: The researcher used Pearson's correlation coefficient to calculate the correlation between the score of each item and the total score of the care burden scale to ensure internal consistency of the items (Allen & Yen, 1979, p. 124). The items that met the criteria in both methods were retained.

Item No.	**Correlation Coefficient**	**Significance**	**Item No.**	**Correlation Coefficient**	**Significance**	**Item No.**	**Correlation Coefficient**	**Significance**	**Correlation Coefficient**	**Significance**	
1	0.33	Significant	7	0.52	Significant	13	0.52	Significant	19	0.57	Significant
2	0.41	Significant	8	0.45	Significant	14	0.49	Significant	20	0.51	Significant
3	0.38	Significant	9	0.54	Significant	15	0.57	Significant	21	0.45	Significant
4	0.31	Significant	10	0.44	Significant	16	0.48	Significant	22	0.42	Significant
5	0.55	Significant	11	0.52	Significant	17	0.43	Significant	23	0.36	Significant
6	0.48	Significant	12	0.41	Significant	18	0.41	Significant	24	0.27	Significant

Table (8): Item-Total Score Correlation of the Care Burden Scale

All the items are significant because their correlation coefficients exceed the table value of 0.098 at the 0.05 significance level and 214 degrees of freedom.

b. **Correlation between Subscale Scores and Total Score**

The correlations between the subscale scores and the total score of the scale are considered fundamental measurements of homogeneity, contributing to determining the behavior domain to be measured. It was found that the correlation coefficients were statistically significant, and when compared with the Pearson table value of 0.08 at the 0.05 level with 399 degrees of freedom, all correlations were found to be significant. Table (9) shows this.

Domain	**Time Burden**	**Developmental Burden**	**Physical Burden**	**Social Burden**	**Emotional Burden**	**Total Caregiver Burden**
Time Burden	1	0.39	0.29	0.17	0.07	0.67
Developmental Burden	---	1	0.54	0.39	0.21	0.80

Physical Burden	---	---	1	0.23	0.12	0.69
Social Burden	---	---	---	1	0.18	0.65
Emotional Burden	---	---	---	---	1	0.45

Table (9) Validity of the Caregiver Burden Scale Using the Relationship between Domain Scores and the Total Score of the Scale, and Domain-to-Domain Relationships (Dimensions)

C- Confirmatory Factor Analysis of the Caregiver Burden Scale:

Factor analysis is a statistical method used to process multiple related data that are correlated to varying degrees, in order to derive classification structures based on the type of application. The researcher examines these classification foundations and deduces the common characteristics between them according to the theoretical framework and scientific logic that initiated the study (Farag, 1980, p. 17).

The researcher relied on the theoretical framework of Zarit (1990) on caregiver burden (Zarit, 1990), and the updated studies of the theory, which suggest the existence of five dimensions. Therefore, the researcher resorted to using confirmatory factor analysis to verify the validity of the hypothesis, based on the statistical program Amos, to extract the results and test the fit between the variance matrix of the items included in the analysis and the assumed matrix of the model represented by five latent factors.

After conducting the confirmatory factor analysis of the Caregiver Burden Scale, as shown in Figure (1) and Table (9), it became clear that all the items on the scale are statistically significant, as the values of the standardized regression weights are all statistically significant, according to the t-test values, all of which exceed the critical value of (1.96) at the (0.05) significance level. The standardized regression weights estimate the significance of the relationship between each item and the domain it belongs to. For the result to be accepted, the corresponding values (critical ratios) must be greater than (1.96) (Al-Birq et al., 2013, p. 143). Figure (1) illustrates the caregiver burden scale in the confirmatory factor analysis.

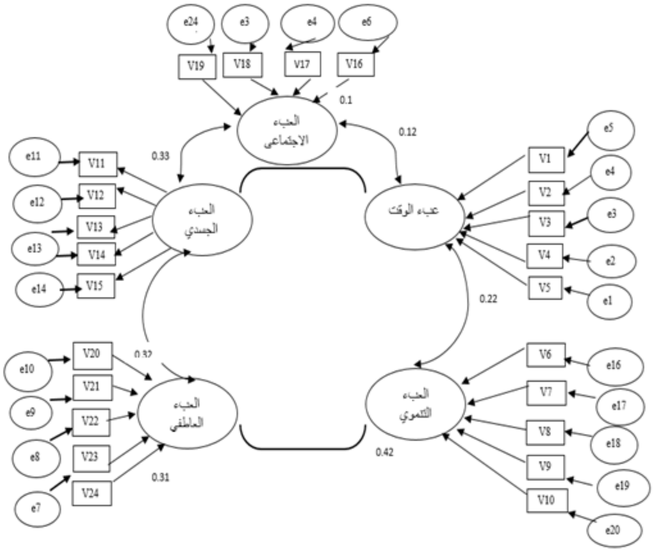

Figure (1) Confirmatory Factor Analysis Diagram of the Caregiver Burden Scale

The results before the factor analysis of the 24 items of the Caregiver Burden Scale, which are all related to the scale, showed that there was no weak item that could be excluded (Costello & Osborne, 2005, p. 8). Table (10) shows the factor loadings for the items on their respective factors and the critical ratio values for the caregiver burden scale.

N.	**Item Sequence in the Scale**	**Domain**	**Factor Loading Estimate**	**Critical Ratio (C.R.)**	**Significance (0.05)**
1	V1	Time Burden	0.17	2.98	Significant
2	V2	Time Burden	0.40	3.36	Significant
3	V3	Time Burden	0.14	2.90	Significant
4	V4	Time Burden	0.25	2.83	Significant
5	V5	Time Burden	0.20	2.69	Significant
6	V6	Developmental Burden	0.12	1.99	Significant
7	V7	Developmental Burden	0.23	2.81	Significant
8	V8	Developmental Burden	0.14	2.74	Significant
9	V9	Developmental Burden	0.50	4.22	Significant
10	V10	Developmental Burden	0.46	7.94	Significant
11	V11	Physical Burden	0.62	8.89	Significant
12	V12	Physical Burden	0.53	7.98	Significant

13	V13	Physical Burden	0.18	3.61	Significant
14	V14	Physical Burden	0.55	8.47	Significant
15	V15	Physical Burden	0.13	2.59	Significant
16	V16	Physical Burden	0.12	1.97	Significant
17	V17	Social Burden	0.49	7.69	Significant
18	V18	Social Burden	0.15	2.03	Significant
19	V19	Social Burden	0.35	2.39	Significant
20	V20	Emotional Burden	0.35	2.59	Significant
21	V21	Emotional Burden	0.50	2.55	Significant
22	V22	Emotional Burden	0.14	1.99	Significant
23	V23	Emotional Burden	0.47	2.62	Significant
24	V24	Emotional Burden	0.63	2.56	Significant

Table (10) Factor Loadings of the Items on Their Respective Factors and the Critical Ratio Values for the Caregiver Burden Scale

To verify the extent to which the Caregiver Burden Scale can be treated as a single overall scale or whether the domains should be treated as independent subscales, the researcher calculated the factor loadings between the domains (Time Burden, Developmental Burden, Physical Burden, Social Burden, Emotional Burden). It was found that they are statistically significant with t-test values all greater than the critical value of (1.96) at the (0.05) level, meaning the Caregiver Burden Scale can be treated as a single overall score. Table (11) shows this.

N.	**Domain-to-Domain Relationship**	**Factor Loading Estimate**	**Standard Error (S.E.)**	**Critical Ratio (C.R.)**	**Significance (0.05)**
1	Time Burden * Developmental Burden	0.04	0.012	3.36	Significant
2	Time Burden * Physical Burden	0.01	0.006	2.03	Significant
3	Time Burden * Social Burden	0.02	0.009	2.48	Significant
4	Time Burden * Emotional Burden	0.03	0.008	2.23	Significant
5	Developmental Burden * Physical Burden	0.02	0.013	3.31	Significant
6	Developmental Burden * Social Burden	0.01	0.014	2.29	Significant
7	Developmental	0.04	0.005	3.23	Significant

	Burden * Emotional Burden				
8	Physical Burden * Social Burden	0.03	0.004	2.47	Significant
9	Physical Burden * Emotional Burden	0.02	0.014	2.56	Significant
10	Social Burden * Emotional Burden	0.04	0.016	3.32	Significant

Table (11) Factor Loadings between the Domains of the Caregiver Burden Scale

The researcher also obtained several important model fit indicators, which show the extent to which the theoretical model adopted by the researcher fits the sample included in the study. This indicates the model's ability to represent the sample data without significant deviation (Tigza, 2012, pp. 229-239). Table (12) illustrates this.

Second: Validity and Reliability Indexes

A - **Face Validity:**

To verify the validity of the scale items, the researcher presented the items and instructions to a group of judges. These judges approved the scale items and instructions, as mentioned earlier in this study.

B - **Construct Validity:**

The researcher relied on two methods to measure construct validity: (1) Discriminant Power using the extreme groups method, and (2) Internal Consistency or the item-total relationship method.

1. **Item Discriminating Power (Extreme Groups Method):**

This type of construct validity is achieved by the caregiver burden scale's ability to distinguish between respondents with high scores and those with low scores on caregiver burden, as previously indicated.

2. **Internal Consistency (Item-Total Relationship Method):**

The researcher confirmed that there is a relationship between all the items and the total score based on the Aibel criterion. The researcher also verified the construct validity indicator of the caregiver burden scale using hypothesis testing (Anastasia, 1988, p. 36), as shown in Tables (6), (7), and Figures (9), (10), (11), (12), and Diagram (1).

Second: Reliability Indexes:

The researcher calculated the reliability of the Caregiver Burden Scale using two methods: the external consistency test-retest method, and the internal consistency Cronbach's alpha method.

1. **Test-Retest Method:**

The researcher applied the caregiver burden scale to a sample of 80 nurses, selected randomly from four hospitals and distributed equally based on academic achievement and gender. Table (12) illustrates this.

N.	Hospital	Academic Qualification	Males	Females	Total
1	Al-Noman Hospital	High School	10	10	20
2	Al-Kadhimiyah Teaching Hospital	Bachelor's Degree	10	10	20
3	Al-Karama Teaching Hospital	High School	10	10	20
4	Ghazi Al-Hariri Hospital	Bachelor's Degree	10	10	20
	Total		40	40	80

Table (12) Reliability Sample of the Caregiver Burden Scale, Distributed Based on Academic Achievement and Gender

After a period of time following the initial application of the scale, it was re-administered to the same sample with a two-week interval. Using the Pearson Correlation Coefficient to determine the relationship between the first and second application scores, the reliability coefficient was found to be (0.81), which is considered a good indicator of stability of responses over time. In this regard, Isawi indicated that if the correlation coefficient between two applications of any psychological test is greater than (0.70), it is considered a good indicator of the test's reliability (Isawi, 1985, p. 58).

B. Alpha-Cronbach Method:

After applying the caregiving burden scale to a sample consisting of 400 nurses (male and female), the Cronbach’s Alpha coefficient for the caregiving burden scale was found to be 0.85, indicating a high reliability. This value is comparable to the study by Allan et al. (2016).

Final Description of the Scale:

The caregiving burden scale consists of 24 items, each of which contains five possible responses representing solutions to the given situations. Respondents must choose an alternative from the options (5, 4, 3, 2, 1) on the left side of each item. A selection of alternative number (5) indicates the most applicable behavior to the respondent's thinking, while selecting alternative (1) indicates behavior that does not apply. The total score for the caregiving burden scale is 120 points. Table (13) presents the statistical properties of the research sample.

Indicator	Value	Indicator	Value
1. Mean	76.66	5. Skewness	-0.15
2. Median	78	6. Kurtosis	-0.19
3. Mode	78	7. Minimum	24

4. Std. Dev.	15.588	8. Maximum	120

Table (13): Statistical Properties of the Research Sample on the Caregiving Burden Scale

The normal distribution of the caregiving burden scale is shown in Figure (2).

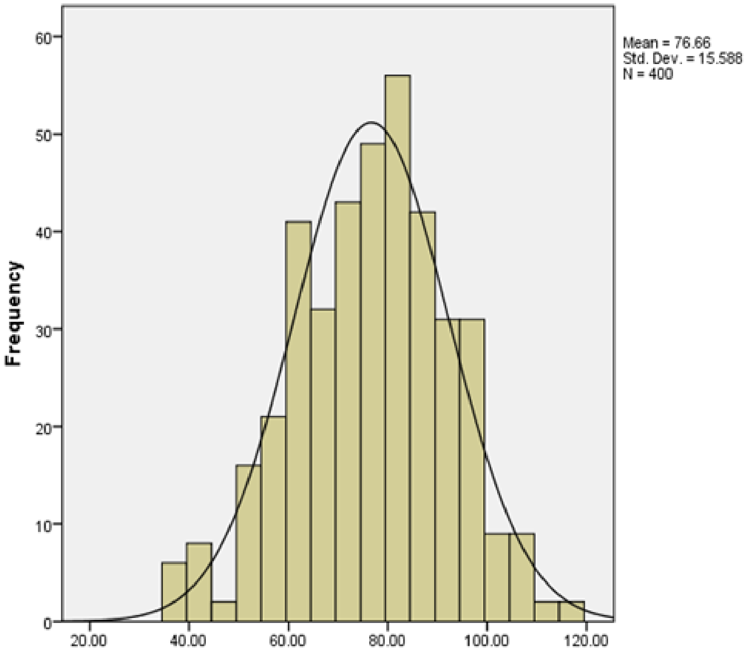

Figure (2): Normal Distribution of the Caregiving Burden Scale

Chapter Four: Presentation and Discussion of Results

First: Measurement of Caregiving Burden among Nurses

To achieve this objective, the researcher applied the caregiving burden scale to the research sample consisting of 400 nurses. The results showed that the average score of the nurses on the scale was 78 points with a standard deviation of 15.588. When comparing this average with the hypothesized mean of the scale (72 points) * and using a one-sample t-test, it was found that the difference was statistically significant in favor of the mean, as the calculated t-value was higher than the tabulated t-value of 1.96 at the 0.05 significance level, with 399 degrees of freedom. Table (14) shows this result.

* The hypothetical average for the (burden of care) scale was extracted by adding the weights of the five scale alternatives and dividing them by their number, then multiplying the result by the number of scale items, which is (24) items.

Sample	**Mean**	**Std. Dev.**	**Hypothesized Mean**	**Calculated t-Value**	**Tabulated t-Value**	**Degrees of Freedom**	**Significance Level**
400	78	15.58	72	23.88	1.96	399	Significant

Table (14): One-Sample t-Test for the Measurement of Caregiving Burden among Nurses

The result from Table (16) indicates that the research sample exhibits a high level of caregiving burden. This can be explained through Zarit's (1990) theoretical framework, which highlights that caregivers face numerous challenging situations and conditions that lead to work stress. Nurses, working directly as caregivers in hospitals around the clock, are especially vulnerable due to prolonged work hours, which negatively impacts their physical, mental, and social health.

Second: Identifying Differences in Caregiving Burden Based on Variables (Gender, Age, Years of Service, and Educational Level)

To determine the significance of differences in average caregiving burden based on gender (male/female), age (20-35/36+), years of service (1-15/16+), and educational level (secondary/bachelor's), the researcher used a two-way ANOVA with a 0.05 significance level. Table (15) presents the results.

Source of Variance	**Sum of Squares**	**Degrees of Freedom**	**Mean Square**	**F-Value**	**Significance (Sig)**
Gender	163.202	1	161.202	3.95	Significant
Age	857.263	2	428.632	5.46	Significant
Years of Service	982.3	3	764.23	4.45	Significant
Educational Level	245.23	4	166.23	3.92	Significant
Gender * Age	384.563	2	192.282	2.45	Not Significant
Gender * Years of Service	235	3	235	2.25	Not Significant
Gender * Educational Level	124.23	4	124.23	2.45	Not Significant
Age * Years of Service	116	6	123	2.3	Not Significant
Age * Educational Level	134	8	165	2.34	Not Significant
Years of Service * Educational Level	316	12	324	3.14	Not Significant
Error	3857.788	355	268.3806		
Total	400				

Table (15): Differences in Caregiving Burden Based on Variables (Gender, Age, Years of Service, and Educational Level)

1. Differences in Caregiving Burden Based on Gender (Male - Female)

To achieve this objective, the caregiving burden scale was applied to a sample of 400 nurses (200 males and 200 females). A two-way ANOVA was used to compare the mean scores and standard deviations of males and females. The calculated F-value was 3.99, which was higher than the tabulated F-value of 3.84 at the 0.05 significance level, with 1-355 degrees of freedom. This indicates a statistically significant difference in caregiving burden based on gender, in favor of females. Table (16) illustrates this result.

Variable	Gender	Sample Size	Mean	Std. Dev.	Calculated F-Value	Tabulated F-Value	0.05 Significance Level
Caregiving Burden	Male	200	76.8	14.52	4.34	3.83	Significant
	Female	200	78.5	15.56			

Table (16): Mean and Standard Deviation for Gender (Male - Female) on the Caregiving Burden Scale

The result in Table (16) shows that there are statistical differences in caregiving burden between male and female participants. This can be interpreted within the context of Zarit's (1990) theory, which suggests that women tend to experience more health problems, such as depression and mental disorders, increasing their caregiving burden. Additionally, women face a range of physical, mental, social, and economic challenges as caregivers, leading to significant psychological and emotional effects such as anxiety, depression, and sadness, as well as feelings of guilt or confusion. These effects may include a loss of contact with friends, family, or society due to the time and effort caregiving requires, leading to social isolation.

2. Differences in Caregiver Burden According to Age Group (20-35) (36 and above):

To achieve this objective, the Caregiver Burden Scale was applied to a sample of 400 nurses, consisting of 200 males and 200 females. After using the Two-Way Analysis of Variance (ANOVA) on the scale, calculating the mean and standard deviation for the age groups (20-35) and (36 and above), it was found that the calculated F-value (5.46) was higher than the tabulated F-value (3), with a significance level of (0.05) and degrees of freedom (2-355). This indicates that there is a statistically significant difference in caregiver burden according to age, as shown in Table (17).

Variable	Age Groups	Sample Size	Mean	Standard Deviation	Calculated F Value	Tabulated F Value	Significance Level (0.05)
Caregiver Burden	Males (20-35)	100	76.69	14.56	5.46	3	Significant

Caregiver Burden	Males (36 and above)	100	77.75	14.52			
Caregiver Burden	Males Total	200	77.22	14.54			
Caregiver Burden	Females (20-35)	100	79.26	15.56			
Caregiver Burden	Females (36 and above)	100	78.17	15.52			
Caregiver Burden	Females Total	200	78.71	15.54			
Caregiver Burden	Overall Sample	400	77.96	15.04			

Table (17): Descriptive Statistics for the Caregiver Burden Scale by Age Variable

The result of Table (17) indicates a statistically significant difference in caregiver burden according to age, with the age group (20-35) showing a higher burden. This result can be explained by Zarit’s theory (1990), where caregiver burden significantly varies between different age groups, particularly between younger individuals (20-35 years) and older individuals (36 years and above). The age group (20-35) is more likely to experience caregiver burden as individuals in this age range are typically in the process of raising families and children, which requires significant time and effort to balance work and life. These individuals face challenges in balancing work responsibilities and family care, and their self-care may decrease due to work and family pressures, which negatively impacts their physical and mental health.

3. Differences in Caregiver Burden According to Years of Service (1-15) (16 and above):

To achieve this objective, the Caregiver Burden Scale was applied to a sample of 400 nurses, consisting of 200 males and 200 females. After conducting Two-Way ANOVA on the scale, calculating the mean and standard deviation for years of service groups (1-15) and (16 and above), it was found that the calculated F-value (4.16) was higher than the tabulated F-value (3), with a significance level of (0.05) and degrees of freedom (3-355). This indicates that there is a statistically significant difference in caregiver burden according to years of service, as shown in Table (18).

Variable	**Years of Service**	**Sample Size**	**Mean**	**Standard Deviation**	**Calculated F Value**	**Tabulated F Value**	**Significance Level (0.05)**

Caregiver Burden	Males (1-15)	100	76.04	14.52	4.16	3	Significant
Caregiver Burden	Males (16 and above)	100	75.96	14.23			
Caregiver Burden	Males Total	200	76	14.37			
Caregiver Burden	Females (1-15)	100	79.03	15.66			
Caregiver Burden	Females (16 and above)	100	78.88	14.95			
Caregiver Burden	Females Total	200	78.955	15.03			
Caregiver Burden	Overall Sample	400	77.74	14.83			

Table (18): Descriptive Statistics for the Caregiver Burden Scale by Years of Service Variable

The result of Table (18) indicates a statistically significant difference in caregiver burden according to years of service, with the group (1-15 years) experiencing a higher burden. This can be explained by Zarit's theory (1990), where caregiver burden differs considerably between individuals with different years of service. Specifically, those with 1-15 years of service face challenges such as balancing work and family, particularly if they have young children. They may also be in the early stages of building their careers, increasing work-related pressures.

4. Differences in Caregiver Burden According to Educational Qualification (Secondary – Bachelor's):

To achieve this objective, the Caregiver Burden Scale was applied to a sample of 400 nurses, consisting of 200 males and 200 females. After using Two-Way ANOVA on the scale, calculating the mean and standard deviation for educational qualification groups (Secondary – Bachelor's), it was found that the calculated F-value (5.46) was higher than the tabulated F-value (3), with a significance level of (0.05) and degrees of freedom (4-355). This indicates a statistically significant difference in caregiver burden according to educational qualification, as shown in Table (19).

Variable	**Education Level**	**Sample Size**	**Mean**	**Standard Deviation**	**Calculated F Value**	**Tabulated F Value**	**Significance Level (0.05)**

Caregiver Burden	Males (Secondary)	100	75.33	14.89	27.21	3	Significant
Caregiver Burden	Males (Bachelor's)	100	75.01	14.43			
Caregiver Burden	Males Total	200	75.17	14.66			
Caregiver Burden	Females (Secondary)	100	76.89	15.67			
Caregiver Burden	Females (Bachelor's)	100	76.53	15.11			
Caregiver Burden	Females Total	200	76.71	15.39			
Caregiver Burden	Overall Sample	400	75.94	15.025			

Table (19): Descriptive Statistics for the Caregiver Burden Scale by Educational Qualification

The result of Table (19) shows a statistically significant difference in caregiver burden according to educational qualification, with those holding a secondary education experiencing higher caregiver burden. Educational qualifications affect caregiver burden in various ways. For example, nurses with a secondary education may face limited economic opportunities, increasing financial pressure. This may lead to working in low-wage jobs with long hours, reducing the time available for caregiving.

To explore the differences in caregiver burden according to variables such as gender, age, years of service, and educational qualification, Tukey's post-hoc test was used for pairwise comparisons, as shown in Table (20).

Comparison	**N**	**Mean**	**Difference**	**Tukey's Critical Value**	**Significance**
Males (20-35) vs Males (36 and above)	25	76.48	3.68	1.30	Significant
Males (1-15) vs Males (16 and above)	25	74.92	3.52	1.30	Significant
Males (Secondary) vs Males (Bachelor's)	25	76.55	3.99	1.30	Significant

Females (20-35) vs Females (36 and above)	25	78.50	3.01	1.30	Significant
Females (1-15) vs Females (16 and above)	25	78.65	3.34	1.30	Significant
Females (Secondary) vs Females (Bachelor's)	25	76.89	3.26	1.30	Significant

Table (20): Tukey’s Critical Values for Pairwise Comparisons of Caregiver Burden

Conclusions

Based on the current research findings, the researcher concludes the following:

1. Nurses have a high caregiver burden.
2. There are differences in caregiver burden based on gender (in favor of females), age (in favor of the 20-35 age group), years of service (in favor of the 1-15 years group), and educational qualification (in favor of the secondary education group).

Recommendations

1. The Ministry of Health should continue to organize workshops and training sessions for nurses, in coordination with the Ministry of Higher Education and Scientific Research, through faculty members from medical colleges and in collaboration with psychology specialists, to train nurses on handling various situations and making proper healthcare decisions.
2. Collaboration between the Ministry of Health and civil society organizations should be established to use caregiver burden scales for diagnosing weakness and deficiencies in care provided by nurses in hospitals and health centers. This would help in organizing training courses to improve the quality of nursing work in Iraq.

Suggestions

- Study the caregiver burden and its relationship to other variables not covered by the current research, such as ethical dilemmas, ethical climate, personal values, beliefs, and organizational support.

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