

## Research Article

# Prevalence of Depression and Related Socio Demographic Factors Among Nurses Working at Moi Teaching and Referral Hospital, Uasin Gishu County, Eldoret

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## Abstract

Nurses are predisposed to developing depression which is a common mental health problem. They experience depression more than the general population due to the nature of their work. Untreated, depression can lead to a poor quality of life and reduced productivity at the place of work. The purpose of the study was to assess the prevalence and factors associated with depression among nurses working at Moi Teaching and Referral Hospital. The research targeted a population of 1050 nurses working at Moi Teaching and Referral Hospital. A cross-sectional design was employed. Stratified sampling technique was used to select 281 study participants from the targeted population. To triangulate the study, the following research instruments were used to harvest data, these included: a structured questionnaire to collect information on the socio-demographic and work-related characteristics of the nurses, Beck's Depression Inventory to assess the symptoms of depression among nurses and Interview Schedules with the heads of nursing departments on factors associated with depression among nurses. To guarantee validity and reliability of the research instruments, a pilot study was conducted at Kapsabet County Hospital, Nandi County. After cleaning and coding, the raw data was entered into a data base. The STATA statistical software was used to analyze the data. Descriptive statistics was used to summarize the data. Bivariate and multivariate statistics was applied to examine relationships between the independent and dependent variables. The findings were presented using tables. The study sought approval by MMUST Institutional Review Board and Institutional Research and Ethics committee of Moi Teaching and Referral Hospital, Moi University School of Medicine. Informed consent of participants was adhered to during the study. From the study, sociodemographic characteristics had a significant relationship with depression levels. The social demographic characteristics that showed significant relationship in this context included gender, age and marital status. Gender showed a statistically significant relationship with *p*value of 0.000, age variable had a *p*value of 0.015, marital status had a *p*value of 0.007 while religion showed an insignificant relationship with *p*value 0.718. It was also evident, that work-related factors had a strong relationship with the depression status. Some of the work-related factors in this study included education level, department, shift, income and religion. Majority of these variables showed a statistically significant relationship, *i.e.* education level had a *p*value 0.002, department had a *p*value of 0.014, shift had a *p*value of 0.013, income *p*value of 0.008, responsibility with *p*value 0.001 while work experience showed an insignificant relationship evidenced by the *p*value of 0.553 which is greater than the threshold value of 0.05. On the basis of the study findings, the researcher recommends that the policy makers at MTRH should formulate policies that will help prevent depression among nurses and improve service delivery.

**Keywords:** Depression; Nursing; Stressors; Adaptation

## Introduction

Depression is a common mental disorder that affects the mental functioning and thinking process of an individual, greatly diminishing one's social roles and productivity [1]. It affects people in different ways and it can cause a wide variety of symptoms ranging from lasting feelings of sadness and hopelessness, to losing interest in the things one used to enjoy. Many people with depression also

have symptoms of anxiety, a situation referred to as comorbidity [1]. There can be physical symptoms too, such as feeling constantly tired, sleeping problems, having no appetite or sex drive and complaining of various aches and pains and the severity of the symptoms varied [2]. At its mildest level, one could feel persistently low in mood, while at its most severe depression could make one feel suicidal and that life was no longer worth living [2]. Depression was not just the result of a chemical imbalance in the brain and it was not simply cured

**Table 1:** Distribution of Nurses by their background characteristics.

Background characteristics	Total		Females		Males	
	N	%	n	%	N	%
<b>Age (years)</b>						
20-29 years	71	25.36%	42	22.11%	29	32.22%
30-39 years	143	51.07%	96	50.53%	47	52.22%
40-49 years	45	16.07%	33	17.37%	12	13.33%
>50 years	21	7.5%	19	10.00%	02	2.22%
Total	280	100%	190	100%	90	100%
<b>Education</b>						
Certificate	40	14.34%	27	14.21%	13	14.61%
Diploma	170	60.93%	112	58.95%	58	65.17%
Degree	64	22.94%	48	25.26%	16	17.98%
Masters	5	1.79%	3	1.58%	2	2.25%
Total	279	100%	190	100%	89	100%
<b>Marital status</b>						
Married	205	73.21%	140	73.68%	65	72.22%
Widowed	11	3.93%	11	5.79%	0	0%
Single	61	21.79%	36	18.95%	25	27.78%
Divorced/separated	3	1.07%	3	1.58%	0	0%
Total	280	100%	190	100%	90	100%

with medication [3]. Depression was caused by a combination of biological, psychological and social factors. In other words, lifestyle choices, relationships and coping skills mattered just as much, if not more so, than genetics [3]. However, certain risk factors could make one to be more vulnerable to depression, including but not limited to loneliness, lack of social support, recent stressful life experiences, family history of depression, marital or relationship problems, financial strain, early childhood trauma or abuse, alcohol or drug abuse, unemployment or underemployment and health problems or chronic pain [4]. According to the Diagnostic and Statistical Manual of Mental Disorders [5], depression was associated with a number of manifestations that supported the Diagnosis, including tearfulness, irritability, brooding, obsessive rumination, anxiety, phobias, excessive worry over physical health, and complaints of pain (for example, headaches; joint, abdominal, or other pains) [6]. Nevertheless, the nursing profession is characterized by exposure to a wide range of psychologically challenging situations. The sources of these stressors in the nursing profession had been associated with the burden of meeting the needs of patients, relatives and other health professionals [3]. According to Rosse and Rosse (1981), nurses had many tasks to be done compared to other professions. In addition, studies by Rosse and Rosse (1981) add another author here to avoid repeating same author) and [7] suggested that high levels of role conflict were related to lower job satisfaction, reduced organizational commitment and greater likelihood of turnover intention. Working for long term in healthcare services, a stressfully work environment, role conflict, an unequal position comparing to other healthcare professionals and limited staffing resources were all related to job stress [8]. Another major source of depression was role conflict, which referred to the incompatible demands from multiple roles held simultaneously [8]. According to [9] since the Nightingale era, nursing

had been seen predominantly as a women's work and therefore, males who found themselves in the field went through a lot of stress. When males choose a traditionally female occupation, they tended to experience role conflict [10,11]. Men were less satisfied and fulfilled in nursing than women [12] and male nurses had greater turnover intentions than their female counterparts. Many studies showed that nurses with high job stress exhibited decreased job satisfaction, lesser hospital commitment, increased absenteeism and turnover intentions [8,11]. Nurses were indispensable to the healthcare system and their wellbeing and work performance had considerable effects on the quality of hospital healthcare [13]. According to [14], nursing was invariably considered a stressful occupation within the healthcare system and nurses experienced a variety of occupational stressors such as heavy workload, insufficient time for patient care, irregular work schedule, poor work environment and difficult patients. These could negatively affect the health status of nurses, which might hinder their professional performance and affect the quality of healthcare provided by nurses [14]. These issues inevitably had negative effects on patient's health. Depression was a common mental disorder, with a prevalence rate of 14.6% among adults in high income countries and 11.1% in developing countries. It was estimated that depression would become the second leading cause of Disability Adjusted Life Years (DALYs) by the year 2020. Previous studies had suggested that depression would also be a pervasive problem among nurses [15]. In the United States of America (USA), a study showed that the prevalence of depressive symptoms among nurses was 41%, but another reported it to be 18%. In France, a third of nurse managers in hospitals were found to suffer from depressive symptoms [16]. In Canada, 1 in 10 nurses showed depressive symptoms [16]. Although the discrepancy in depressive symptoms prevalence among nurses across countries could have been partly due to the vast diversity of criteria used to measure depressive symptoms, it also indicated that there were discrepancies in the incidence of depressive symptoms among nurses in different countries, which was associated with social cultural factors, nurses personalities and the healthcare system [14]. Depression in the working age population was estimated to cost \$12 billion annually in medical care and approximately \$44 billion annually in lost productivity and hence the need for prevention. [13,17] found out that the prevalence of depression in society in men is 3% and in women is 49% and it is projected to become the leading cause of disability and second leading contributor to the global burden of disease by the year 2020. However, in a study done on depression, anxiety and stress among teaching faculties of a nursing college, it was found that 16% of the teaching faculties were observed with anxiety alone and 16% with anxiety and depression. 12% of the faculties were found to have all the three conditions [18]. Nevertheless, [19] found out that depression is the third common psychiatry disorder with a prevalence rate of 15% in lifetime and may occur approximately in 25% women. Depression is a common mental disorder, with a prevalence of 14.6% among adults in high-income countries and 11.1% in developing countries. It is estimated that depression will become the second leading cause of disability-adjusted life years lost by the year 2020. Moreover [2], revealed that single employed women are more likely to develop depression than married employed women. It can be said in this regard that social supports, including family relations, diversely affect the stress rate and married nurses experience depression considerably lower as they

**Table 2:** Depression levels of Respondents by socio-demographic characteristics.

Variable	Frequency			Depression levels (%)			
	(n)	Normal	Mild mood disturbance	Borderline	Moderate	Severe	Extreme
<b>Gender</b>							
Females	190	14	11	34	37	3	1
Males	90	69	16	10	6	0	0
Total	280	$X^2=99.8421$	$p = 0.000$	-	56	-	-
<b>Age group</b>							
20-29	71	6	12	23	58	1	0
30-39	143	10	14	30	43	1	8
40-49	46	63	24	7	4	2	0
>50	21	57	24	5	5	5	5
Total	281	$X^2=78.3350$	$p = 0.015$	-	66	-	-
<b>Religion</b>							
Christian	271	32	13	26	27	2	1
Muslim	7	29	0	57	14	0	0
Atheist	3	33	0	0	67	0	0
Total	281	$X^2=7.0770$	$p = 0.718$	-	56	-	-
<b>Marital status</b>							
Married	206	50	33	6	11	0	0
Widowed	11	9	9	36	36	9	0
Single	61	10	7	34	48	0	2
Divorced/separated	3	0	0	0	33	33	33
Total	281	$X^2=56.8865$	$p = 0.007$	-	35	-	-

receive higher support from their family.

This study was guided by two objectives i) to determine the prevalence of depression among nurses working at Moi Teaching and Referral Hospital ii) to examine the relationship between depression and socio demographic factors among nurses working at Moi Teaching and Referral Hospital.

## Research Methodology

This study applied a cross-sectional research design. The design involved the collection of data at one point in time. Phenomena under study are captured during one period of data collection. This design is appropriate for describing the status of phenomena or for describing relationships among phenomena at a fixed point in time. One can test the hypothesis, using cross-sectional data [20].

Cross-sectional data can most appropriately be used to infer time sequence under two circumstances; when there is evidence or logical reasoning indicating that one variable preceded the other and when a strong theoretical framework guides the analysis. Cross-sectional studies can also be used to infer about processes evolving over time. Cross-sectional studies are easy to do and are relatively economical [20].

The study was conducted at Moi Teaching and Referral Hospital which is located in Eldoret town, 310 kilometers Northwest of Nairobi. The hospital is a government run facility and it is one of the only two level six hospitals in Kenya. The hospital has 800 bed capacities

and caters for the health needs of people from Western, Nyanza and Rift valley regions of Kenya. It also serves patients from Rwanda, Uganda, Burundi and South Sudan. Moi Teaching and Referral Hospital serves as the teaching facility for Moi University College of Health Sciences, University of East Africa (Baraton) and several other medical training institutions in Eldoret and its environs. Besides, the hospital is allowed by the ministry of health to train nurses, clinical officers and other healthcare personnel. The residents of Eldoret are grain farmers, pastoralists, and participate in athletics. The hospital is divided into different departments for good administrative purposes. The departments include medicine, surgery, pediatrics, accident and emergency, obstetrics/gynecology and the outpatient departments. The hospital has approximately five thousand staff and nurses making the majority of the employees.

Nurses working at Moi Teaching and Referral Hospital constituted the study population. The number of nurses working in this hospital is 1050. These nurses work in various departments which include accident and emergency, medicine, surgery, pediatrics, operating theatres to mention but a few. Both male and female nurses are employed by the hospital and they work on different shifts. The male nurses are 164 and females are 886. Majority of the nurses are from the Kalenjin community.

Beck's (1961) Depression Inventory (BDIII) was used to collect data on the dependent variable. The Beck's Depression Inventory (BDI) is a 21 item; self report rating inventory that measures characteristic attitudes and symptoms of depression [4].

**Table 3:** Educational level and depression.

Variables	Depression levels (%)						
	Freq (n)	Normal	Mild mood disturbance	Borderline	Moderate	Severe	Extreme
<b>Educational level</b>							
<b>Certificate</b>	40	5	3	28	63	3	0
<b>Diploma</b>	171	34	12	26	25	2	1
<b>Degree</b>	64	44	38	9	8	2	0
<b>Masters</b>	5	40	20	20	20	0	0
<b>Total</b>	280	$\chi^2 = 69.8226$	$p = 0.002$	51	--	-	-

A score of 110 is considered normal, 1116 is mild mood disturbance, 1720 is borderline clinical depression, 2130 is moderate depression, 3140 is severe depression and over 40 is extreme depression. A persistent score of 17 or above indicates that one may require medical treatment. Interview schedule was used to conduct interviews on key informants in nursing departments which included HODs, hospital chief nurse and the deputy hospital chief nurse on depression. The interview schedule had seven questions on depression which the hospital chief nurse, his deputy and HODs responded to. A structured questionnaire incorporating socio demographic and work related characteristics was used to harvest data on study participants. Sociodemographic characteristics included age, gender, marital status, level of education and religion.

The distribution of respondents by age was displayed in Table 1. From the results, it was observed that the majority 143 (51.07%) of the respondents were aged 30-39 and 71 (25.36%) of the respondents were aged 20-29 years. Less than a quarter of the respondents, 45 (16.07%) were aged 40-49 years while only 21 (7.5%) of the respondents were aged above 50 years. This meant that the study was not biased in terms of age representation of its sample population that was key for this study.

The findings further revealed that, more than half 170 (60.93%) of the respondents had diploma level of education, slightly less than a quarter, 64 (22.94%) of the respondents had attained degree level of education, 40 (14.34%) of the respondent had attained certificate level of education while only 5 (1.79%) had attained masters level.

Seven in ten 205 (73.68%) of the respondents were married, 11 (3.93%) of the respondents were widowed, 61 (21.79%) of the respondents were single while only 3 (1.58%) of the respondents were divorced or separated. By gender there was no big difference in the proportion for those who are married, single and divorced. Table 2 shows the prevalence of depression to be 56%. This implies that 5 in 10 of the respondents exhibited symptoms of depression. Otherwise there was significant relationship between gender and depression levels status ( $p < 0.000$ ,  $\chi^2 = 99.8421$ ). These findings were at variance with those of [9] who revealed that since the Nightingale era, nursing had been seen as a predominantly women's work, and therefore, males who found themselves in the field went through a lot of stress. Further [10,11] also reported that when males chose a traditionally female occupation, they had a tendency of experiencing role conflict. Men were less satisfied at nursing than women [12] and male nurses had greater turnover intentions than their female counterparts.

However, a recent study by [19], on depression among nurses

at the universities of medical sciences affiliated hospitals, it was discovered that depression occurred in approximately 25% of women. The study also showed that there was significant relationship between sex and the level of depression, implying that women were more susceptible to depression than men.

The results of the comparison of depression levels by age showed that the proportion of diabetes was decreasing by age but for the ages below 39 years of age, the results showed a higher depression rate compared to the older ages. The overall prevalence of depression by age stood at 66%. The explanation for this was that most of the nurses staff above 40 years were used to their work compared to the younger nurses. The differences among the diabetics by age were statistically significant ( $p < 0.015$ ,  $\chi^2 = 78.3350$ ).

The findings were concurrent with those of [13] who found out that the highest prevalence rate of probable clinical cases of anxiety (23%) was reported among the age group 20 to less than 30 years, while the highest prevalence level of probable clinical cases of depression (10.9%) was reported among the age group 30-40 years among the nurses. Table 2 showed that there was no significant relationship between religion and depression ( $p < 0.718$ ,  $\chi^2 = 7.0770$ ). However, this study registered a high depression prevalence of 56%, attributable to more than 96% of the respondents being Christian and 2.5% being Muslim, while only 1.5% was atheist. A cross tabulation of marital status and the level of depression indicated that more of those who experienced symptoms for depression were widowed, single, divorced and separated, making marriage a protective factor against depression among nurses in Kenya. There was a statistically significant relationship between marital status and depression level ( $p < 0.007$ ,  $\chi^2 = 56.8865$ ). This was concurrent with the findings of Kaplan (2001) who documented that depression was observed more among the divorced and those lacking inter personal relationship. Moreover Asad (2011) revealed that single and employed women were more likely to develop depression than married employed women. It can be stated that in this regard that social support, including family relations diversely affected the stress rates and married nurses experienced depression considerably lower than the unmarried because they enjoyed higher level of support from their families. Table 3 shows that the prevalence of depression level in relation to the level of education in this study was at 56%. The study further showed that a higher level of depression was noted among lower levels of education at certificate and diploma levels. This study also showed a statistically significant relationship between the lower level of education and depression ( $p < 0.002$ ,  $\chi^2 = 69.8226$ ).

## Conclusion and Recommendations

In conclusion, the study revealed that there was a high prevalence rate of depression among nurses and a strong relationship between sociodemographic factors and depression among nurses working at Moi Teaching and Referral Hospital. In sociodemographic factors, gender, age and marital status of the respondents showed a strong statistical relationship between these factors and depression.

Basing on the study findings, the following recommendations were made:

1. Continuous mentorship to the young nurses' o best practices in handling their services.
2. The management should introduce Continuous Medical Education (CMEs) sessions to address the gaps identified in the long run this will be able to bring the young nurses up to speed with their work and improve performance.
3. Formulation of policies that will help prevent depression among nurses working at the hospital this will then improve service delivery and patient's well being.

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