



Journal Homepage: - www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/19878

DOI URL: <http://dx.doi.org/10.21474/IJAR01/19878>



RESEARCH ARTICLE

PREVALENCE OF BURNOUT AMONG HEALTHCARE PROVIDERS IN ONCOLOGY CENTER DEPARTMENT IN KING FAHAD SPECIALIST HOSPITAL - DAMMAM (2023-2024)

Dr. Haneen Abdulwahab Alnweider, Saif El-Deen Al-Horani, Dr. Abdulrazaq Ibrahim Alshail and Dr. Muna Sadeq Alshehabi

Family Medicine Consultant, SBFM Palliative Care Fellow, KFSH-D, E Cluster Kingdom of Saudi Arabia, Eastern Province, Dammam.

Manuscript Info

Manuscript History

Received: 08 September 2024

Final Accepted: 17 October 2024

Published: November 2024

Abstract

Introduction: Burnout, characterized by work-related stress and emotional exhaustion, is prevalent among healthcare workers, especially in oncology. In oncology, practitioners face unique challenges due to the demanding nature of their work and the emotional toll of treating cancer patients. The incidence of burnout among oncologists has increased globally. Despite existing interventions, burnout remains a significant issue with implications for patient care. This study focuses on understanding burnout in the context of the oncology center at King Fahad Specialist Hospital Dammam, aiming to provide insights for targeted interventions.

Methodology: A cross-sectional study was conducted at a specialized oncology center in Dammam, Saudi Arabia from November 2023 to March 2024, assessing burnout among healthcare professionals using the Maslach Burnout Inventory-Human Services Survey for Medical Professionals. Burnout was defined as scores on emotional exhaustion (EE) scale ≥ 27 and/or depersonalization (DP) scale ≥ 10 . Statistical analysis included descriptive measures and chi-square or Fisher exact tests. Ethical approval was obtained, and all participants provided consent.

Results: The study included 156 oncology medical personnel, predominantly female (69.9%), aged 30-39 (42.9%), and with less than ten years of practice (54.5%). Most were non-Saudi (59%), married (80.8%), and had children (71.2%). The majority worked 41-60 hours weekly (74.4%) and were nurses (49.4%). Burnout criteria were met by 69.9% of respondents, with high levels of EE (64.1%), DP (51.3%), and low levels of PA (27.6%). Burnout was associated with working over 60 hours weekly ($p = 0.002$). No significant associations were found with years in practice, patient load, or mortality dealt with weekly. Non-Saudis showed higher levels of Personal Accomplishment (63.5% vs 36.5%, $p < 0.001$), particularly in the 30-39 age group ($p = 0.008$). Inpatient and critical care settings had higher burnout rates, especially in medical oncology (72.5%) and pediatric hematology/oncology (77.3%).

Conclusion: This study presents the first in-depth investigation into burnout among oncology medical staff in Dammam, Saudi Arabia,

Corresponding Author:- Dr. Haneen Abdulwahab Alnweider

Address:- Family Medicine Consultant, SBFM Palliative Care Fellow, KFSH-D, E Cluster Kingdom of Saudi Arabia, Eastern Province, Dammam.

offering valuable insights into its prevalence and contributing factors. The findings exhibit a significant burden of burnout, with higher levels of EE linked to longer weekly working hours, while holding non-clinical jobs appears to mitigate EE levels. Additionally, a diverse workforce exhibits higher PA, particularly among individuals aged 30-39. The study also highlights a notable proportion of burnout cases among those in inpatient and critical care settings. Recommendations include addressing burnout through workload management, support services, professional development, promoting a positive organizational culture, and ongoing research efforts.

Copyright, IJAR, 2024,. All rights reserved.

Introduction:-

Burnout, a term coined in the early 1970s, defines the state of work-related stress resulting from chronic exposure¹. This phenomenon is characterized by emotional exhaustion, cynicism, a diminished sense of professional accomplishment, and depersonalization.^{2,3} While it can manifest across various professions, healthcare workers, particularly those in oncology, appear to face a heightened risk.⁴⁻⁷

Burnout is not merely an occupational challenge; it reflects an individual's inability to cope with work demands coupled with life pressures, leading to both physical and mental distress.⁸

The timeline for burnout suggests that its initial physical and emotional symptoms may slowly develop over the course of a year⁷. Recognizable symptoms include chronic fatigue, cardiovascular issues, cognitive dysfunction, insomnia, gastrointestinal complaints, and affective and behavioral distress such as anger, depression, and anxiety. Cynicism and depersonalization may manifest as pessimism, isolation, demoralization, and detachment.⁹ A low sense of personal accomplishment contributes to feelings of inefficacy, decreased productivity, and an overall dissatisfaction in work-life balance.^{1,9,10}

Research has identified several risk factors associated with burnout, ranging from individual characteristics such as age, gender, and personality traits to environmental factors like increased time in direct patient care, high occupational demands, and lack of social support.¹¹ The negative impact of burnout extends personally and professionally, leading to consequences such as substance abuse, broken relationships, suicide, low patient satisfaction, poor quality of care, and medical errors.¹² The potential for malpractice suits poses substantial costs for healthcare workers and their institutions.^{11,13}

In the field of oncology, practitioners face daily challenges requiring significant decision-making due to their interactions with patients afflicted by cancer.⁴ This specialty presents inherent complexities as cancer possesses the capacity to inflict profound detriment upon individuals diagnosed with it.⁵ Typically, those diagnosed with cancer endure psychological distress, intense emotional upheaval, and substantial social and economic burdens stemming from the ramifications of this lethal disease.⁵ Consequently, oncologists often contend with prolonged periods of direct patient care, the provision of medical guidance to patients' families, arduous electronic documentation tasks, dynamic medical landscapes, a sense of diminished control over daily obligations, and dissatisfaction with the available resources provided by healthcare facilities for managing the emotional responses of patients and their families.^{6,7}

Despite progress in oncology, many cancer patients still suffer and succumb to the disease. This constant challenge exposes oncologists to emotions like grief and compassion fatigue.⁷ Simultaneously, they must employ their cognitive capacities to administer complex treatments to seriously ill patients, making them vulnerable to burnout syndrome.^{4-7,14-17}

Focusing on healthcare providers in oncology, the global incidence of burnout has markedly increased over the past decade in the United States, Europe, and Australia.⁴

Studies reveal alarming percentages, with the American Society of Clinical Oncology reporting that 45% of its member medical oncologists have experienced symptoms related to burnout.⁷ The prevalence varies across regions,

ranging from 20-70%, emphasizing the need for a nuanced understanding of the problem.^{18,19} A study conducted in Riyadh, Saudi Arabia has reported a burnout level of 28.7.²⁰

Existing interventions and support systems, such as establishing a healthy work environment, positive feedback, peer support, and open communication, are considered protective factors against burnout.²¹

However, the importance of addressing burnout in healthcare cannot be overstated, as it jeopardizes patient safety, satisfaction, and perception of healthcare providers. Early recognition and intervention are crucial for maintaining job satisfaction, reducing turnover, and ensuring optimal patient care.²²

This research aims to address a critical gap in understanding burnout within the context of oncology centers in our kingdom. While several studies have compared burnout prevalence among healthcare professionals in Saudi Arabia, our focus on the HCPs working in oncology care among the largest oncology center in the Eastern Province, King Fahad Specialist Hospital – Dammam (KFSH-D), is unique. By investigating the prevalence of burnout, this study aims to contribute valuable insights that can inform targeted interventions to alleviate burnout among healthcare providers in our specific setting.

Methodology:-

Design and Sample

A cross-sectional quantitative was conducted at King Fahad Specialist Hospital Dammam - Oncology Center from November 2023 to March 2024. This institution is the largest center in Dammam for oncology. All HCPs working at the KFSH-D Oncology Center at the time of investigation were eligible to participate in the study. Exclusion criteria for participation in the study were staff on leave during data gathering period, or staff not willing to participate.

Instruments

The Maslach Burnout Inventory (MBI) serves as the most widely used standardized measure of burnout within research. This psychometric tool assesses all three core dimensions of burnout: Emotional Exhaustion (EE), Depersonalization (DP), and Personal Accomplishment (PA). We used MBI-Human Services Survey for Medical Professionals (MBI-HSS-MP) which utilizes a 22-item questionnaire with a 7-point Likert scale (0 = never, 6 = every day) to capture the participant's experience. Scores on each subscale (EE, DP, PA) are then categorized as low, medium, or high. A high level of burnout is indicated by a score ≥ 27 in the EE subscale, ≥ 10 in the DP subscale and ≤ 33 in the PA subscale based on normative data from 1104 medical professionals.² Traditionally, burnout is defined by a combination of high EE, high DP, and low PA. However, recent research suggests an alternative definition focusing solely on high EE and DP as the core indicators of burnout.²³ As such we have defined burnout criteria as individuals meeting EE ≥ 27 and/or DP ≥ 10 .

Statistical Analysis

Descriptive measures included counts and percentages for categorical variables. Chi square test, or Fisher exact test when $>20\%$ of cells had counts less than five, were used to assess the relationship between categorical variables. A two-sided p value ≤ 0.05 was considered statistically significant. Statistical analyses were calculated using Statistical Package for the Social Sciences v26 (SPSS) and figures were drawn using flourish.studio (Canva UK Operations Ltd., London, UK).

Ethical approval(s)

Approved Nov. 21st, 2023, Ministry of Health, KFSH-D Institutional Review Board (IRB) (Research Executive Administration - King Khalid Medical City (REA-KKMC), King Fahad Specialist Hospital-Dammam, Bldg. 100, First Floor, Office 31, 28, Saudi Arabia; Tel: +966 (0)38431111, ext. 2978-2904-2903; Email: IRB@kfsh.med.sa), National Registration Number H-05-D002. All HCPs provided their consent to participate in this survey.

Results:-

Respondents Demographics

Of the 350 oncology medical personnel who were invited to participate, survey responses were received from 165 (47.1%) medical personnel. All analyses were conducted on the 156 (44.6%) respondents who completed the Maslach Burnout Inventory-Human Services Survey for Medical Professionals MBI-HSS (MP).

The analysis reveals that the majority of respondents were female (109, 69.9%), and predominantly aged between 30 and 39 years (67, 42.9%). Additionally, 92 individuals, accounting for 59% of the total respondents, were non-Saudi. Furthermore, a significant proportion were married (126, 80.8%) and had children (111, 71.2%).

The working hours were predominantly between 41 to 60 hours (116, 74.4%) with a significant portion working less than 10 years (85, 54.5%) within oncology. Nurses constituted the largest professional group (77, 49.4%), followed by physicians (48, 30.8%) and allied health professionals (31, 19.9%). The majority did not work in palliative care settings (142, 91.0%). A significant number were involved in other non-clinical professional work in addition to their assignment in the oncology center (102, 65.4%). (Table 1)

For the number of patients taken care of in a week, 29 (18.6%) handled four or fewer patients, while 16 (10.3%) managed between 5 to 8 patients, with a significant majority of 111 (71.2%) dealing with over 8 patients. Looking specifically at terminally ill patients, 92 (59.0%) HCPs attended to four or fewer, 30 (19.2%) managed 5 to 8, and 34 (21.8%) had more than 8 under their care. Regarding mortalities, 145 (92.9%) HCPs encountered four or fewer deaths, 7 (4.5%) dealt with 5 to 8, and 4 (2.6%) handled over 8 in a week. (Table 1)

The care setting distribution was predominantly in either inpatient care or outpatient services with 93 (59.6%) individuals having reported working in either service, excluding the critical care. Additionally, 45 (28.8%) individuals have reported working in both settings. 7 (4.5%) individuals each have reported working in the operation rooms and critical care units, while 4 (2.6%) individuals reported working in home care services. Finally, 15 (9.6%) individuals reported working across ancillary areas such as laboratories and administrative offices. (Figure 1)

Maslach Burnout Inventory

Notably, 109 respondents (69.9%) met the criteria for burnout ($EE \geq 27$ and/or $DP \geq 10$), while 47 (30.1%) did not. Results indicate that EE was prevalent, with 100 respondents (64.1%) experiencing high levels (≥ 27), while 24 (15.4%) and 32 (20.5%) participants reported moderate (19-26) and low (≤ 18) levels, respectively. Regarding PA, 74 individuals (47.4%) demonstrated high scores (≥ 40), whereas 39 (25.0%) and 43 (27.6%) respondents displayed moderate (34-39) and low (≤ 33) levels, respectively. Furthermore, DP was observed in 80 participants (51.3%) at high levels (≥ 10), with 25 (16.0%) and 51 (32.7%) individuals reporting moderate (6-9) and low (≤ 5) levels, respectively. (Table 2)

EE had a statistically significant association with working hours per week and holding a concurrent professional non-clinical job. Among individuals experiencing high levels of EE, there was a significantly higher percentage of those working over 60 hours per week compared to those with moderate and low levels of EE, with figures at 35.0%, 8.3%, and 6.3%, respectively ($P = 0.002$). Notably, among individuals experiencing low levels of EE, a significantly larger proportion worked other professional non-clinical jobs compared to those with moderate and low levels of EE, registering at 53.1%, 20.8%, and 32.0%, respectively ($P = 0.028$) (Table 3).

No statistically significant association was observed between burnout status and years in practice, number of patients taken care of in a week, number of terminally ill patients taken care of in a week, or number of mortalities dealt with in a week.

Sense of PA had a statistically significant association with age group and nationality. Non-Saudis demonstrated a notably higher prevalence of a high levels of PA compared to their Saudi counterparts, with figures at 63.5% and 36.5%, respectively ($P < 0.001$).

Furthermore, within the subset of individuals reporting a high sense of PA, a considerable proportion fell within the 30-39 age bracket. Conversely, those with moderate and low senses of PA were predominantly aged between 40-49 and 30-39 years, respectively, with percentages at 44.6%, 38.5%, and 55.8% accordingly ($P = 0.008$) (Table 4)

Stratification by Burnout Status

After stratification by burnout status, a statistically significant association between burnout status and working hours per week. Those who met the criteria for burnout had a higher proportion of people working 60 hours or more per week (33.0% versus 6.4%, $P = 0.003$).

Meanwhile, no significant association was observed between burnout status and age in years, gender, nationality, marital status, presence of children, years in practice, job description, working in palliative care, number of patients taken care of in a week, number of terminally ill patients taken care of in a week, number of mortalities dealt with in a week, or involvement in other professional non-clinical work. (Table 5)

When examining care settings stratified by burnout status, it is observed that inpatient and critical care environments demonstrate higher proportions among individuals experiencing burnout in comparison to those who do not. Specifically, among individuals experiencing burnout, the proportions of individuals in inpatient, outpatient, critical care, operating rooms, and other settings were 66.1%, 56%, 3.7%, 6.4%, 2.8%, and 9.2%, respectively. Conversely, among individuals who did not meet the criteria for burnout, the proportions in these settings were 44.7%, 68.1%, 6.4%, 2.1%, 4.3%, and 10.6%, respectively. (Figure 2)

Upon stratifying departments by burnout status, notable variations emerge across different medical specialties. In medical oncology, 72.5% of individuals met the criteria for burnout, while 27.5% did not. Conversely, both surgical oncology and palliative care departments exhibited comparable percentages, with 50% meeting burnout criteria. Within the radiation oncology department, 60% met the burnout criteria, indicating a substantial prevalence. Similarly, within the hematology department, a significant portion met the burnout criteria. Specifically, in pediatric hematology/oncology, the burnout rate was notably high at 77.3%. In other ancillary departments, the burnout rate stood at 69%. (Figure 3)

Discussion:-

This study represents the first comprehensive investigation of burnout among medical personnel within oncology in Dammam, Saudi Arabia. Our findings contribute to the limited body of literature on burnout in this specific population, adding valuable insights into the prevalence and associated factors of burnout within the context of oncology care.

The 47.1% response rate in our study was comparable to similar studies conducted on oncology professionals with response rates varying between 25.2%-62.8%.^{20,24,25}

The reported levels of burnout at 69.9%, encompassing high levels of DE at 51.3%, and EE at 64.1%, and low levels of PA at 27.6%, represents the substantial burden faced by oncology healthcare professionals in our setting. These results are comparable to studies with prevalence of burnout ranging from 68% to 81% among Saudi, Middle Eastern, North African, and European cohorts.^{20,26-28} Our study has reported comparable rates of high levels of DE, EE, and low levels of PA with ranges from 24.9%-70.6%, 35%-62.2%, and 13.2%-49%.^{20,27-30} It is worth mentioning that studies conducted on US oncology professionals reported much lower burnout rates between 36.5%-44.7%.^{29,31}

The age of the respondents in our survey was predominantly between 30-39 years, which is expected in healthcare providers working age group and as KSA has a younger population, with rising oncology and healthcare systems.^{32,33} This result is comparable to studies in the MENA region and Europe where the majority were younger than 45 years.^{27,28} Conversely, the US demographics reveal that only 16% of the oncology workforce is younger than age 40 with a median age of 52.³⁴

Although a recent study conducted by Benhaddouch et al. has reported that gender is a significant factor in burnout among oncology professionals, our study did not indicate a significant association between gender and burnout, aligning with a study conducted by Innstrand et al.^{35,36}

Our study revealed that higher levels of EE were associated with the hours worked per week. Specifically, 35.0% of individuals meeting burnout criteria worked between over 60 hours weekly. This association is attributed to the presence of after duties hours within this subset of our cohort. Research suggests that burnout is not solely determined by total work hours but rather by the presence of on-call responsibilities. Additionally, even the potential for disruption from on-call duties, regardless of actual calls, negatively impacts individuals.^{37,38} This agrees with a study conducted by Sipos et al. which has revealed that taking on-calls and working over 50 hours per week was associated with higher rates of burnout.³⁰

Holding another professional non-clinical job was associated with a lower level of EE. This may be explained by the correlation between lower burnout levels and receiving higher overall compensation from other non-clinical jobs.³⁹ Furthermore, the ability to influence decisions by serving on committees and managerial jobs has been associated with lower rates of burnout and higher rates of professional achievement.⁴⁰

Our study shows a statistically significant association between personal achievement and both age group and nationality. Our study revealed that among individuals with a low sense of PA, 55.8% aged 30-39, compared to only 9.3% in the 50-59 age group. This trend may stem from the natural progression within healthcare, where individuals often achieve autonomy, promotions, and develop advanced coping skills as they age, particularly in fields like oncology, leading to a heightened sense of achievement. Maslach et al. has reported that burnout was more likely among those younger than 40 years of age, so we believe that our results may have been confounded by work experience as a deterrent for the components of burnout among older individuals within oncology.⁴¹

A recent study by Ghazwani et al. has reported reduced sense of personal achievement among Saudis.⁴² In our study, non-Saudis demonstrated significantly higher PA compared to Saudis, with rates of 63.5% and 36.5%, respectively ($P < 0.001$). This may be attributed to the cultural competence of a multinational workforce and better compensation and autonomy for expatriates in our center. The nationality diversity among respondents likely contributed to the higher PA levels (47.4%) found in our study, consistent with previous research linking diversity to increased job satisfaction and organizational commitment.^{43,44}

Our study revealed that a greater proportion of individuals experiencing burnout were employed in inpatient and critical care settings, as opposed to those who did not meet the criteria for burnout. Multiple studies have consistently reported elevated burnout rates among individuals working in inpatient and critical care settings, attributing this phenomenon to the heightened stress levels inherent in these environments.⁴⁵⁻⁴⁸

Implications

To address burnout among oncology medical personnel, it is crucial to implement effective workload management strategies, ensuring reasonable workloads and redistributing responsibilities as needed. Promoting a healthy work-life balance through support programs and reasonable working hours is essential, as is providing opportunities for professional development to promote job satisfaction and personal growth. Establishing support services like counseling and peer support groups can offer crucial emotional and psychological assistance. Fostering a positive organizational culture that values diversity, open communication, and transparency is paramount, alongside recognizing and rewarding the contributions of healthcare professionals. Continuous research and evaluation of burnout levels and tailored interventions are necessary to ensure ongoing improvement and adaptation to the evolving needs of the workforce.

Limitations

This cross-sectional study is hindered by a small sample size, attributed to its voluntary participation aspect, thus limiting the generalizability of findings. Furthermore, the nature of the study prevents establishing clear temporal or causal relationships. Additionally, our exclusion criteria did not encompass individuals recently exposed to significant psychological trauma, potentially affecting the results. Lastly, the scarcity of similar studies poses challenges in making comprehensive national and regional comparisons.

Conclusion:-

This study provides the first comprehensive investigation of burnout among oncology medical personnel in Dammam, Saudi Arabia, contributing valuable insights into prevalence and associated factors. Our findings reveal a significant burden of burnout. Notably, higher levels of EE were linked to weekly working hours, while holding non-clinical jobs was associated with lower EE levels. A diverse workforce exhibited a higher PA, especially among those who are 30-39 years of age. Additionally, the study highlights a notable proportion of burnout cases among those working in inpatient and critical care settings. We recommend addressing burnout in oncology medical personnel through workload management, support services, professional development, positive culture, and ongoing research. We also recommend embedding burnout surveys at different checkpoints, such as contract renewals, or at routine intervals.

Table 1:- Demographic Features.

Demographic Features	N = 156 (%)
Age (years)	
20-29	9 (5.8)
30-39	57 (42.9)
40-49	51 (32.7)
≥50	29 (18.6)
Gender	
Male	47 (30.1)
Female	109 (69.9)
Nationality	
Saudi	54 (41.0)
Non-Saudi	92 (59.0)
Marital Status	
Married	126 (80.8)
Single	26 (16.7)
Divorced/Separated	3 (1.9)
Widowed	1 (0.6)
Presence of Children	
Yes	111 (71.2)
No	45 (28.8)
Years in Practice	
≤10	35 (54.5)
11-20	52 (39.7)
>20	9 (5.8)
Hours per Week	
≤40	1 (0.6)
41 to 60	116 (74.4)
≥60	39 (25.0)
Job Description	
Physician	48 (30.8)
Nurse	77 (49.4)
Allied Health	31 (19.9)
Palliative Care Settings	
Yes	14 (9.0)
No	142 (91.0)
Number of patients taken care of in a week	
≤4	29 (18.6)
5-8	16 (10.3)
>8	111 (71.2)
Number of terminally ill patients taken care of in a week	
≤4	92 (59.0)
5-8	30 (19.2)
>8	34 (21.8)
Number of mortalities dealt with in a week	
≤4	145 (92.9)
5-8	7 (4.5)
>8	4 (2.6)
Other Non-clinical Professional Work	
Yes	102 (65.4)
No	54 (34.6)

Table 2:-

Maslach Burnout Inventory	N (%)
Emotional Exhaustion	
Low (≤ 18)	32 (20.5)
Moderate (19-26)	24 (15.4)
High (≥ 27)	100 (64.1)
Personal Accomplishment	
High (≥ 40)	74 (47.4)
Moderate (34-39)	39 (25.0)
Low (≤ 33)	43 (27.6)
Depersonalization	
Low (≤ 5)	51 (32.7)
Moderate (6-9)	25 (16.0)
High (≥ 10)	30 (51.3)
Burnout Criteria Met (EE ≥ 27 and/or DP ≥ 10)	
Yes	109 (69.9)
No	47 (30.1)

Table 3:- Emotional Exhaustion.

		Emotional Exhaustion			P-Value
		Low (≤ 18) N=32 N (%)	Moderate (19-26) N=24 N (%)	High (≥ 27) N=100 N (%)	
Years in Practice	≤ 10	20 (62.5)	16 (66.7)	49 (49.0)	.079
	11-20	12 (37.5)	5 (20.8)	45 (45.0)	
	> 20	0 (0.0)	3 (12.5)	6 (6.0)	
Hours worked per week	≤ 40	0 (0.0)	0 (0.0)	1 (1.0)	.002
	41 to 60	30 (93.8)	22 (91.7)	64 (64.0)	
	≥ 60	2 (6.3)	2 (8.3)	35 (35.0)	
Number of patients taken care of in a week	≤ 4	7 (21.9)	5 (20.8)	17 (17.0)	.757
	5-8	3 (9.4)	4 (16.7)	9 (9.0)	
	> 8	22 (68.8)	15 (62.5)	74 (74.0)	
Number of terminally ill patients taken care of in a week	≤ 4	19 (59.4)	12 (50.0)	61 (61.0)	.836
	5-8	5 (15.6)	6 (25.0)	19 (19.0)	
	> 8	8 (25.0)	6 (25.0)	20 (20.0)	
Number of mortalities dealt with in a week	≤ 4	31 (96.9)	22 (91.7)	92 (92.0)	.899
	5-8	1 (3.1)	1 (4.2)	5 (5.0)	
	> 8	0 (0.0)	1 (4.2)	3 (3.0)	
Other professional non-clinical work	No	15 (46.9)	19 (79.2)	68 (68.0)	0.028
	Yes	17 (53.1)	5 (20.8)	32 (32.0)	

Table 4:-

		Personal Achievement			P-Value
		High (≥ 40) N=74 Count	Moderate (34-39) N=39 Count	Low (≤ 33) N=43 Count	
Age Group	20-29	0 (0.0)	4 (10.3)	5 (11.6)	.008
	30-39	33 (44.6)	10 (25.6)	24 (55.8)	
	40-49	26 (35.1)	15 (38.5)	10 (23.3)	
	50-59	15 (20.3)	10 (25.6)	4 (9.3)	
Nationality	Non-Saudi	47 (63.5)	27 (69.2)	13 (30.2)	< 0.001

	Saudi	27 (36.5)	12 (30.8)	30 (69.8)	
Marital Status	Single	10 (13.5)	4 (10.3)	12 (27.9)	.30
	Married	62 (83.8)	34 (87.2)	30 (69.8)	
	Divorced/Separated	1 (1.4)	1 (2.6)	1 (2.3)	
	Widowed	1 (1.4)	0 (0.0)	0 (0.0)	
Presence of Children	No	18 (24.3)	10 (25.6)	17 (39.5)	.190
	Yes	56 (75.7)	29 (74.4)	26 (60.5)	
Gender	Female	54 (73.0)	26 (66.7)	29 (67.4)	.723
	Male	20 (27.0)	13 (33.3)	14 (32.6)	

Table 5:-

	Burnout criteria met [N = 109]	Burnout criteria not met [N = 47]	P value
Age in Years			
20-29	8 (7.3)	1 (2.1)	325
30-39	47 (43.1)	20 (42.6)	
40-49	37 (33.9)	14 (29.8)	
≥50	17 (15.6)	12 (25.5)	
Gender			
Male	34 (31.2)	13 (27.7)	659
Female	75 (68.8)	34 (72.3)	
Nationality			
Non-Saudi	56 (51.4)	31 (66.0)	092
Saudi	53 (48.6)	16 (34.0)	
Marital Status			
Single	19 (17.4)	7 (14.9)	223
Married	89 (81.7)	37 (78.7)	
Divorce/Separated	1 (0.9)	2 (4.3)	
Widowed	0 (0.0)	1 (2.1)	
Presence of Children			
No	33 (30.3)	12 (25.5)	549
Yes	76 (69.7)	35 (74.5)	
Years in practice			
≤ 10	53 (48.6)	32 (68.1)	081
11 to 20	49 (45.0)	13 (27.7)	
>20	7 (6.4)	2 (4.3)	
Hours worked per week			
≤40	0 (0.0)	1 (0.9)	0.001
41 to 60	44 (93.6)	72 (66.1)	
≥60	3 (6.4)	36 (33.0)	
Job Description			
Physician	32 (29.4)	16 (34.0)	843
Nurse	55 (50.5)	22 (46.8)	
Allied Health	22 (20.2)	9 (19.1)	
Palliative Care Settings			
No	102 (93.6)	40 (85.1)	089
Yes	7 (6.4)	7 (14.9)	
Number of patients taken care of in a week			
≤4	20 (18.3)	9 (19.1)	774
5-8	10 (9.2)	5 (12.8)	
>8	79 (72.5)	32 (68.1)	
Number of terminally ill patients taken care of in a week			

≤4	56 (60.6)	26 (55.3)	747
5-8	21 (19.3)	9 (19.1)	
>8	22 (20.2)	12 (25.5)	
Number of mortalities dealt with in a week			
≤4	99 (91.7)	45 (95.7)	680
5-8	5 (5.6)	1 (2.1)	
>8	3 (2.8)	1 (2.1)	
Other professional non-clinical work			
Yes	73 (67.0)	29 (61.7)	526
No	36 (33.0)	18 (38.3)	

Figure 1:- Percentage of healthcare worker across different care settings.

Figure 1: Percentage of healthcare workers across different care settings



Figure 2:- Percentage of care settings stratified by burnout status.

Figure 2: Percentage of care settings stratified by burnout status

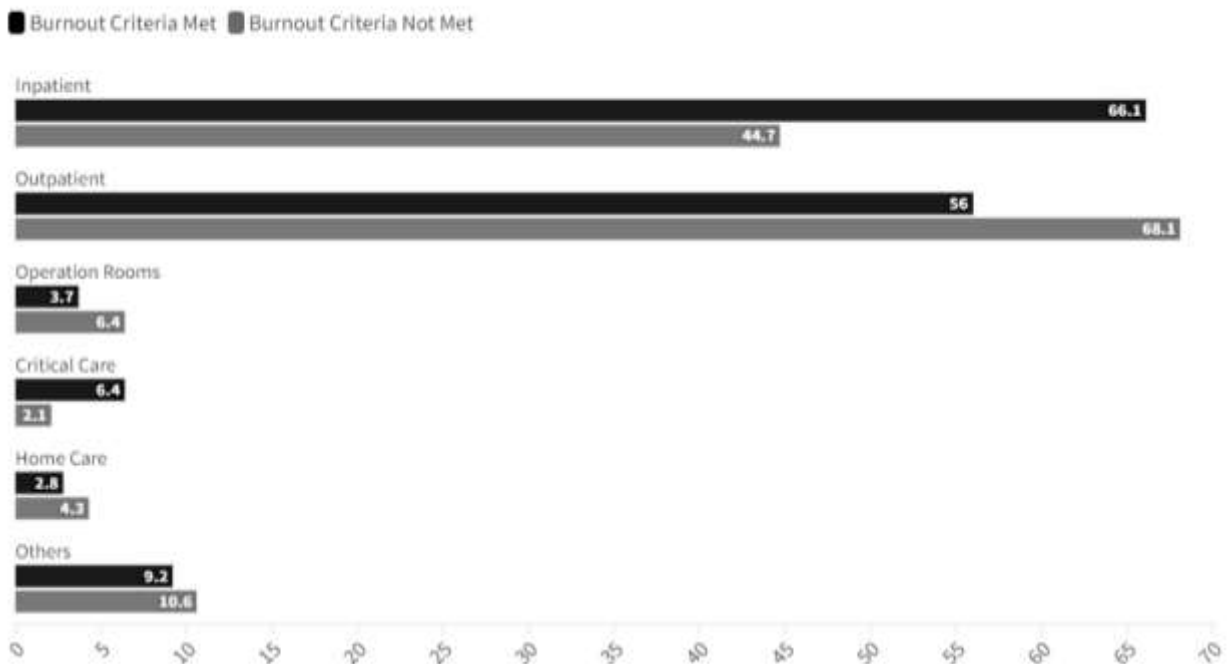
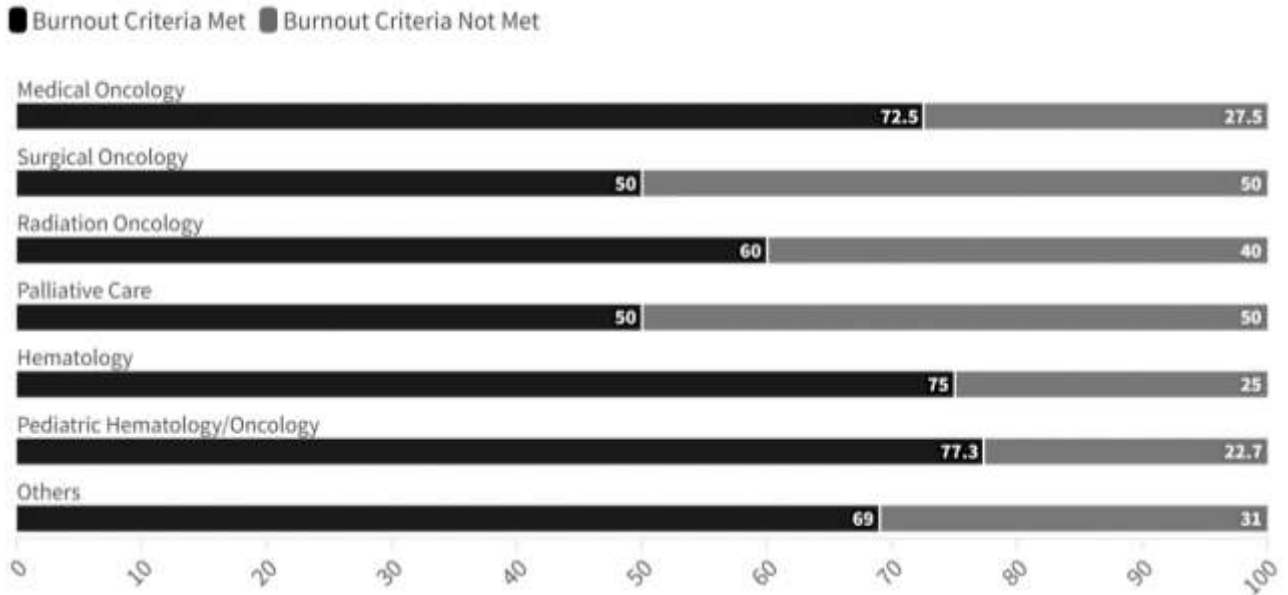


Figure 3:- Percentage of burnout among different departments.**Figure 3: Percentage of Burnout Among Different Departments****References:-**

1. Freudenberger HJ. Staff Burn-Out. *Journal of Social Issues*. 1974;30(1):159-165. doi:10.1111/j.1540-4560.1974.tb00706.x
2. Maslach C, Jackson S, Leiter M. *Maslach Burnout Inventory Manual*. 3rd ed. Palo Alto, CA: Consulting Psychologists Press (1996). .
3. Chopra SS. Physician Burnout. *JAMA: The Journal of the American Medical Association*. 2004;291(5):633-633. doi:10.1001/jama.291.5.633
4. Shanafelt T, Dyrbye L. Oncologist Burnout: Causes, Consequences, and Responses. *Journal of Clinical Oncology*. 2012;30(11):1235-1241. doi:10.1200/JCO.2011.39.7380
5. Jaiswal A. *Integrative Bioinformatics of Functional and Genomic Profiles for Cancer Systems Medicine*, Finland: University of Helsinki (2018). p. 82. .
6. Copur MS. Burnout in Oncology. *Oncology (Williston Park)*. 2019;33(11).
7. Hlubocky FJ, Back AL, Shanafelt TD. Addressing Burnout in Oncology: Why Cancer Care Clinicians Are At Risk, What Individuals Can Do, and How Organizations Can Respond. *American Society of Clinical Oncology Educational Book*. 2016;(36):271-279. doi:10.1200/EDBK_156120
8. Edú-Valsania S, Laguía A, Moriano JA. Burnout: A Review of Theory and Measurement. *Int J Environ Res Public Health*. 2022;19(3):1780. doi:10.3390/ijerph19031780
9. Bährer-Köhler S, ed. *Burnout for Experts*. Springer US; 2013. doi:10.1007/978-1-4614-4391-9
10. Schaufeli WB, Leiter MP, Maslach C. Burnout: 35 years of research and practice. *Career Development International*. 2009;14(3):204-220. doi:10.1108/13620430910966406
11. De Hert S. <p>Burnout in Healthcare Workers: Prevalence, Impact and Preventative Strategies</p>. *Local Reg Anesth*. 2020;Volume 13:171-183. doi:10.2147/LRA.S240564
12. Salvagioni DAJ, Melanda FN, Mesas AE, González AD, Gabani FL, Andrade SM de. Physical, psychological and occupational consequences of job burnout: A systematic review of prospective studies. *PLoS One*. 2017;12(10):e0185781. doi:10.1371/journal.pone.0185781
13. Jones JW, Barge BN, Steffy BD, Fay LM, Kunz LK, Wuebker LJ. Stress and medical malpractice: Organizational risk assessment and intervention. *Journal of Applied Psychology*. 1988;73(4):727-735. doi:10.1037/0021-9010.73.4.727
14. TRUFELLI DC, BENSI CG, GARCIA JB, et al. Burnout in cancer professionals: a systematic review and meta-analysis. *Eur J Cancer Care (Engl)*. Published online October 2008. doi:10.1111/j.1365-2354.2008.00927.x

15. Kash KM, Holland JC, Breitbart W, et al. Stress and burnout in oncology. *Oncology (Williston Park)*. 2000;14(11):1621-1633; discussion 1633-4, 1636-1637.
16. Bar-Sela G, Lulav-Grinwald D, Mitnik I. "Balint Group" Meetings for Oncology Residents as a Tool to Improve Therapeutic Communication Skills and Reduce Burnout Level. *Journal of Cancer Education*. 2012;27(4):786-789. doi:10.1007/s13187-012-0407-3
17. RAMIREZ A, GRAHAM J, RICHARDS M, TIMOTHY A. Stress at work for the clinical oncologist. *Clin Oncol*. 1996;8(3):137-139. doi:10.1016/S0936-6555(96)80036-7
18. Murali K, Banerjee S. Burnout in oncologists is a serious issue: What can we do about it? *Cancer Treat Rev*. 2018;68:55-61. doi:10.1016/j.ctrv.2018.05.009
19. Murali K, Makker V, Lynch J, Banerjee S. From Burnout to Resilience: An Update for Oncologists. *American Society of Clinical Oncology Educational Book*. 2018;(38):862-872. doi:10.1200/EDBK_201023
20. Bany Hamdan A, Alshammary S, Javison S, Tamani J, AlHarbi M. Burnout Among Healthcare Providers in a Comprehensive Cancer Center in Saudi Arabia. *Cureus*. Published online January 30, 2019. doi:10.7759/cureus.3987
21. He Y, Pang Y, Zhang Y, Fielding R, Tang L. Dual role as a protective factor for burnout-related depersonalization in oncologists. *Psychooncology*. 2017;26(8):1080-1086. doi:10.1002/pon.4425
22. de Vries N, Boone A, Godderis L, et al. The Race to Retain Healthcare Workers: A Systematic Review on Factors that Impact Retention of Nurses and Physicians in Hospitals. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*. 2023;60:004695802311593. doi:10.1177/00469580231159318
23. Schaufeli W. B. Burnout. In: Firth-Cozens J., Payne R., editors. *Stress in Health Professionals: Psychological and Organizational Causes and Interventions*. Chichester, NY: Wiley; 1999.
24. Lee AI, Masselink LE, De Castro LM, et al. Burnout in US hematologists and oncologists: impact of compensation models and advanced practice provider support. *Blood Adv*. 2023;7(13):3058-3068. doi:10.1182/bloodadvances.2021006140
25. Abusanad A, Bensalem A, Shash E, et al. Prevalence and Risk Factors of Burnout Among Female Oncologists From the Middle East and North Africa. *Front Psychol*. 2022;13. doi:10.3389/fpsyg.2022.845024
26. Abusanad AM, Bensalem A, Shash E, et al. 1579P Burnout among oncology professionals in the Middle East and North Africa (MENA). *Annals of Oncology*. 2020;31:S959. doi:10.1016/j.annonc.2020.08.2062
27. Abusanad A, Bensalem A, Shash E, et al. Burnout in oncology: Magnitude, risk factors and screening among professionals from Middle East and North Africa (BOMENA study). *Psychooncology*. 2021;30(5):736-746. doi:10.1002/pon.5624
28. Banerjee S, Califano R, Corral J, et al. Professional burnout in European young oncologists: results of the European Society for Medical Oncology (ESMO) Young Oncologists Committee Burnout Survey. *Annals of Oncology*. 2017;28(7):1590-1596. doi:10.1093/annonc/mdx196
29. Shanafelt TD, Gradishar WJ, Kosty M, et al. Burnout and Career Satisfaction Among US Oncologists. *Journal of Clinical Oncology*. 2014;32(7):678-686. doi:10.1200/JCO.2013.51.8480
30. Sipos D, Kunstár O, Kovács A, Petőné Csima M. Burnout among oncologists, nurses, and radiographers working in oncology patient care during the COVID-19 pandemic. *Radiography*. 2023;29(3):503-508. doi:10.1016/j.radi.2023.02.008
31. Lee AI, Masselink LE, De Castro LM, et al. Burnout in US hematologists and oncologists: impact of compensation models and advanced practice provider support. *Blood Adv*. 2023;7(13):3058-3068. doi:10.1182/bloodadvances.2021006140
32. Al-Shamsi HO, Abu-Gheida IH, Iqbal F, Al-Awadhi A, eds. *Cancer in the Arab World*. Springer Singapore; 2022. doi:10.1007/978-981-16-7945-2
33. Moradi-Lakeh M, El Bcheraoui C, Tuffaha M, et al. The health of Saudi youths: current challenges and future opportunities. *BMC Fam Pract*. 2016;17(1):26. doi:10.1186/s12875-016-0425-z
34. Towle E. Demographics of the US Oncology Workforce. *J Oncol Pract*. 2016;12(2):99-99. doi:10.1200/JOP.2015.010124
35. Benhaddouch Y, Khalfi S, Benmaamar S, et al. Burnout among physicians and caregivers in oncology: the Moroccan experience. *Ecancermedicalscience*. 2022;16. doi:10.3332/ecancer.2022.1473
36. Innstrand ST, Langballe EM, Falkum E, Aasland OG. Exploring within- and between-gender differences in burnout: 8 different occupational groups. *Int Arch Occup Environ Health*. 2011;84(7):813-824. doi:10.1007/s00420-011-0667-y

37. Ziebertz CM, van Hooff MLM, Beckers DGJ, Hooftman WE, Kompier MAJ, Geurts SAE. The Relationship of On-Call Work with Fatigue, Work-Home Interference, and Perceived Performance Difficulties. *Biomed Res Int.* 2015;2015:1-10. doi:10.1155/2015/643413
38. Bamberg E, Dettmers J, Funck H, Krähe B, Vahle-Hinz T. Effects of On-Call Work on Well-Being: Results of a Daily Survey ¹. *Appl Psychol Health Well Being.* 2012;4(3):299-320. doi:10.1111/j.1758-0854.2012.01075.x
39. Kim BJ, Choi CJW. Impact of compensation and willingness to keep same career path on burnout among long-term care workers in Japan. *Hum Resour Health.* 2023;21(1):64. doi:10.1186/s12960-023-00845-1
40. Maslach C, Leiter MP. New insights into burnout and health care: Strategies for improving civility and alleviating burnout. *Med Teach.* 2017;39(2):160-163. doi:10.1080/0142159X.2016.1248918
41. Maslach C, Schaufeli WB, Leiter MP. Job Burnout. *Annu Rev Psychol.* 2001;52(1):397-422. doi:10.1146/annurev.psych.52.1.397
42. Ghazwani EY. Prevalence and Determinants of Burnout Among Palliative Care Clinicians in Saudi Arabia. *Front Public Health.* 2022;9. doi:10.3389/fpubh.2021.834407
43. Adeniji AA, Osibanjo AO, Iruonagbe TC, Olawande T, Ibidunni AS, Olokundun MA. From Job Satisfaction to Organizational Commitment: The Mediating Influence of Perceived Treatment of Diversity among Nigeria's Public Healthcare Employees. *Open Access Maced J Med Sci.* 2019;7(12):2031-2035. doi:10.3889/oamjms.2019.346
44. Aboshaiqah A. Cultural Competence in Nurses in Saudi Arabia: A Systematic Review. *Middle East Journal of Nursing.* 2023;17(2). doi:10.5742/MEJN2023.9378040
45. Castro CSAA, Timenetsky KT, Katz M, et al. Burnout syndrome and engagement among critical care providers: a cross-sectional study. *Rev Bras Ter Intensiva.* 2020;32(3). doi:10.5935/0103-507X.20200066
46. Heläß M, Haag GM, Bankstahl US, Gencer D, Maatouk I. Burnout among German oncologists: a cross-sectional study in cooperation with the Arbeitsgemeinschaft Internistische Onkologie Quality of Life Working Group. *J Cancer Res Clin Oncol.* 2023;149(2):765-777. doi:10.1007/s00432-022-03937-y
47. Russell K. Perceptions of Burnout, Its Prevention, and Its Effect on Patient Care as Described by Oncology Nurses in the Hospital Setting^[P₁]. *Oncol Nurs Forum.* 2016;43(1):103-109. doi:10.1188/16.ONF.103-109
48. Alshurtan K, Aldhaifi S, Alshammari K, Alodayli O, Alqahtani K, Aldhaifi S. Burnout Syndrome Among Critical Care Health Providers in Saudi Arabia. *J Multidiscip Healthc.* 2024;Volume 17:843-854. doi:10.2147/JMDH.S452294.