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Determinants and Effects of Burnout on Healthcare Professionals and Healthcare Delivery at the Seventh Day Adventist (SDA) Hospital, Tamale, in the Northern Region of Ghana

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Abstract

Background: Healthcare professionals frequently experience burnout, characterised by emotional exhaustion, depersonalisation, and a diminished sense of personal success. We aimed to identify the determinants associated with burnout among healthcare professionals and its implications on healthcare professionals and healthcare delivery. **Methods:** A cross-sectional study was conducted at the Seventh Day Adventist (SDA) Hospital, Tamale, in the Northern Region of Ghana. One hundred twenty-six healthcare professionals of various categories were recruited using convenience sampling. Data was collected through a structured questionnaire using the Maslach Burnout Inventory (MBI). Epi Info software was utilised to analyse the determinants and effects of burnout. **Results:** A small percentage of the study population (4.76%) had burnout. The majority (83.33%) affirmed that burnout affects healthcare professionals, with the effects being physical exhaustion (68.25%), depression (42.86%), medical errors (23.81%), intention to quit the job (17.46%) and suicidal thoughts (9.52%). Similarly, 92% agreed that burnout affects healthcare delivery, with the effects occurring as medical errors (73.02%), patient dissatisfaction (55.56%), increased mortality rates (43.65%), increased lawsuits (32.54%), and increased healthcare costs (20.63%); overall, factors contributing to burnout included workload (61.11%), inadequate staff numbers (57.14%), working overtime (50.79%), and low salary (50.00%). **Conclusions:** Significant determinants of burnout were work overload, lack

of staff, working overtime and low wages. Physical exhaustion had the most effect on healthcare professionals, while increased medical errors and patient dissatisfaction were the most cited effects of burnout on healthcare delivery.

Subject Areas

Global Health, Nursing, Occupational Health, Public Health

Keywords

Burnout, Determinants, Healthcare Professionals, Healthcare Delivery

1. Introduction

Burnout is "exhaustion of physical or emotional strength or motivation typically due to continuous stress or dissatisfaction" (Merriam-Webster, 2022). Burnout is described as "a syndrome regarded as emerging from continuous occupational stress that has not been properly handled" [1]. According to Maslach, scales designed to measure burnout symptoms include emotional weariness, depersonalisation, and lack of personal accomplishment [2]. Many researchers have evaluated burnout in their various study efforts using this description of burnout by Maslach *et al.* There is a recurring theme about burnout among people in diverse workplaces. Individuals who work closely with other people are particularly vulnerable to burnout. Health professionals at risk include physicians, nurses, social workers, dentists, care providers in oncology and AIDS-patient care personnel, emergency service staff members and mental health workers, among others [3].

Many questionnaires are available to measure burnout, but the Maslach Burnout Inventory (MBI) has become one of the most used for measuring burnout in various professional and cultural contexts [4]. According to studies using the MBI in the United States, Canada, and primarily high-income nations in Europe, up to half of outpatient providers indicate considerable emotional fatigue, depersonalisation, and low personal accomplishment [5]. A study done in Europe found that job satisfaction and intention to change jobs, as the abuse/use of tobacco, alcohol, and psychotropic drugs, were signs of burnout among family doctors [6]. These conclusions are supported by a thorough investigation that discovered high levels of burnout among in-patient and outpatient healthcare professionals in high-income countries [7].

Due to the increased focus on occupational health and safety and the many risks associated with work-related activities, burnout among healthcare professionals has yet to get much attention in sub-Saharan Africa [8]. However, an employee experiencing burnout is far more susceptible to workplace dangers. It is impossible to spot trends among the broad group of healthcare professionals because burnout has only been examined in a few categories of health professionals [9]. Studies have demonstrated regional differences in burnout preva-

lence, and it may be challenging to extend findings from high-income countries to low- and middle-income countries due to cultural differences that may affect aspects connected to burnout and its frequency [10]. A study by Kumar [11] found that doctors experiencing burnout are reported to be at a higher risk of making poor decisions, displaying hostile attitudes toward patients, making more medical errors, and having complicated relationships with co-workers. The aetiology of burnout is influenced by an imbalance between the demands of the job and the available resources; this imbalance may be very different in high- and low-income countries [12]. Besides, the coronavirus pandemic of 2019 (COVID-19) also changed the healthcare landscape in several countries and brought about additional pressures, including staff redeployment and infection concerns. When the pandemic changed from an acute stress event to a chronic stressor, staff were more likely to indicate signs of burnout [13].

The growing attention to burnout and employee engagement must reflect a deeper understanding of how these issues affect the workforce, patient care, and healthcare organisations. Physician burnout is not solely the physician's responsibility but also concerns the organisation's leaders, considering that many challenges affecting healthcare providers are related to the allocation of resources [14]. Healthcare employees who experience burnout have poorer mental health, which lowers their productivity [15] and always impacts the standard of care patients receive. Burnout can present physically as headaches, muscle discomfort, sleeplessness, respiratory conditions, and gastrointestinal disorders [16]. A physician in the US is twice as likely to experience burnout as someone in another profession [17]. According to some studies, burnout affects medical students and residents more frequently than students in other academic fields [18] [19].

Often, healthcare workers who are burned out have several underlying issues. These issues include, among others, task overload, lack of staff, patient care, lack of support, role conflict, prolonged direct emotional contact with a terminally ill patient, staff conflicts, lack of progress opportunities, working overtime, and low pay [20]. In addition, burnout is correlated with sociodemographic factors, such as gender, age, education level, employment, years of experience, marital status, and the number of children in a family [15].

Healthcare workers' burnout is a canker affecting the healthcare industry, so it should be given much-needed attention. Considering this, the study seeks to clarify the causes of burnout and how it affects healthcare providers and patients.

Healthcare professionals are the cornerstone of the health sector, so their mental health should be a priority; therefore, seeking out the determinants of burnout and its effects on healthcare professionals and healthcare delivery is essential. Burnout is dangerous as it subtly affects an individual and gradually decreases productivity. Over time, this culminates into a severe crisis affecting healthcare professionals and their ability to deliver quality health service to patients. Thus, it can shake the foundation of the healthcare industry if left unchecked. As such, burnout should be extensively researched to ameliorate this dangerous phenomenon.

The Ministry of Health, Ghana Health Service, District Health Management Teams, hospital administrators, and other significant stakeholders in the health sector will gain from such a study because it gives them insight into the factors that contribute to burnout and the impact that burnout has on healthcare professionals' capacity to provide their patients with high-quality care. Additionally, this study may serve as future reference material for students and researchers.

1.1. Determinants of Burnout among Healthcare Professionals

In a study in Accra, Ghana [15], administrative work accounted for most burnout among health workers, followed by being confronted with suffering and time pressure in completing allotted tasks. In a systematic review and meta-analysis conducted by (10), a high prevalence of burnout correlated with a heavy workload (including working overtime, work shifts, and increased patient load), having a second job, and exposure to violence and conflict at work. Living in a rural or underdeveloped location and not having enough resources are two additional traits related to the workplace. Other factors contributing to job stress include exposure to COVID-19, a lack of personal protective equipment, inadequate support by management, employment uncertainty, specialised job responsibilities, brief rest periods or inadequate vacation time, and long distances travelling to work [10].

Sociodemographic characteristics like gender, age, educational level, marital status, and the number of children in a family are related to burnout [10] [15]. Kruse and colleagues discovered that among Zambian HIV healthcare providers, individuals between the ages of 36 and 45 had a higher relative risk of burnout than those who were 45 or older [21]. Compared to their younger counterparts, senior community pharmacists in Serbia (aged 51 to 60) had a higher burnout rate, according to Jocic [22].

The studies of [15] [21] show a high prevalence of burnout in females relative to males. However, Gau [23] [24] noted a high prevalence of burnout in males compared to females. According to some studies [15] [25] [26], married healthcare professionals have a higher relative risk of burnout than those who are not married, whilst others [24] [27] noted that single individuals are at a higher risk than married individuals and established a positive correlation between burnout and having children. Among healthcare professionals, nurses have the highest chance of burnout [15] [28]. Compared to individuals in outpatient departments, healthcare personnel in the in-patient departments have greater burnout levels [15].

Burnout among healthcare providers in rural Iran was associated with a more extended career history, increased job stress, and significant psychological distress [5].

1.2. Effects of Burnout on Healthcare Professionals

Healthcare professionals' burnout is a genuine problem for those who work to lessen and prevent suffering in others [14]. According to cross-sectional studies

of doctors, burnout is independently linked to 25% higher odds of alcoholism dependence and 200% higher odds of suicidal thoughts [17] [29]. Doctors were more likely to commit suicide than the general population in the US, with male doctors having the highest suicide rates. The suicide rate is four times greater among male doctors than in the general population, and female physicians have lower rates of suicide attempts than other females in a nationally representative study [30].

The fact that American healthcare employees are twice as likely to experience burnout than other workers is perhaps the most devastating statement regarding burnout's effects [31].

In the USA, where the practice is competitive, success is prioritised, and the threat of a malpractice lawsuit frequently looms over the heads of doctors, especially those specialising in surgery or obstetrics, who are continuously watched over by overzealous attorneys [29]. Insurance policies that supposedly protect the doctor have incredibly high premiums. Whether a case is won or lost, the defendant experiences depression, annoyance, and a decrease in his/her level of satisfaction with the profession. Surgeons who had experienced malpractice suits reported less career satisfaction and were less likely to recommend a surgical career to their children [29].

The route to burnout in doctors is unknown. The daily routine of organising treatment plans, the demanding workload, dealing with life-or-death circumstances every day, having difficulty deciding between maintaining an impaired life vs "do not resuscitate" orders, and ongoing disruptions at work and home are all factors or issues leading to burnout [32]. The fact that 30 to 50 per cent of doctors say they would forego medical school if they were starting a career is the most revealing sign of the route to burnout [33] and that they would, instead, urge their future generations to climb other professional ladders.

Unlike physicians, nurses stay with their assigned patients for eight hours or longer, and they are expected to run twelve-hour shifts in some situations. In this line of employment, there has always been an overburden of work, and in many hospitals in remote locations, double shifts have become more common. Although there are signs that most nurses feel exhausted after 12 hours of continuous work, the popularity of lengthier changes has been rising [34].

It is known that nursing care involves environmental risks. Many writers have complained about back injuries among nurses [35] [36]. On record, mutagenesis, teratogenesis, and carcinogenesis are possible side effects of combining and administering antineoplastic medications [37]. It is known that a hostile work environment contributes to occupational stress, which may impact nurses' satisfaction and retention and the effectiveness of patient care delivery [38]. In research conducted among Ghanaian nurses, 49.3 per cent of the participants intended to quit their occupations. Research participants cited a lack of ambition and managerial support as the main reasons they intended to leave. All categories of nurses strongly corroborated that these findings resulted in burnout and a desire to leave the sector [39]. In a study in Accra, Ghana [15], most respondents

indicated that burnout was from administrative work, followed by being confronted with suffering and time pressure; the slightest pressure encountered was from relationships with patients, followed by individual decision-making.

In a systematic review and meta-analysis conducted by [10], a high prevalence of burnout correlated with a heavy workload (including working overtime, work shifts, and an increased patient load), having a second job, and exposure to violence and conflict at work. Living in a rural or underdeveloped location and not having enough resources are two additional traits related to the workplace. Additional factors contributing to job stress include lack of personal protective equipment, inadequate support, employment uncertainty, specialised job responsibilities, and brief rest periods or vacation time.

1.3. Effects of Burnout on Healthcare Delivery

On multivariate analysis that controls for other personal and professional characteristics, cross-sectional studies of more than 7100 US surgeons found that burnout was an independent predictor of reporting a recent medical error [40] and being involved in a medical malpractice claim [29]. Burnout and medical errors most likely have a symbiotic relationship. A longitudinal research of internal medicine residents found a correlation between higher levels of burnout and higher chances of reporting a mistake in the next three months. An association between self-perceived medical errors and increased burnout, depressive symptoms, and a deterioration in quality of life was found, suggesting a feedback loop between medical errors and distress [39].

Furthermore, research has shown that the average stress levels of hospital employees are associated with the incidence of hospital malpractice lawsuits [40] and that the moderate burnout of hospital nurses is a solo predictor of infections linked to healthcare [41]. Burnout could also result in higher rates of medical malpractice claims, absenteeism, and decreased productivity, indirectly raising healthcare expenses [42] [43] [44]. Other research has shown that the mean emotional exhaustion levels of medical professionals working in intensive care units increased along with patient mortality rates [45], while reported interpersonal teamwork quality decreased over this same period [46].

Significant correlations between a doctor's level of depersonalisation and patient satisfaction with hospital care have been discovered in cross-sectional studies with small sample sizes [47], as well as between a doctor's job satisfaction and patient satisfaction with health care [48] [49] and patient-reported adherence to medical advice [50]. Job dissatisfaction and burnout are related [50]. In cross-sectional studies of physicians, job dissatisfaction was separately found to raise the risk of leaving the current practice for this reason other than retirement by more than 200 per cent [51] [52].

Healthcare organisations must consider the financial implications of healthcare staff turnover. The cost of turnover for registered nurses in the USA was estimated to be $82,000 - $88,000 per nurse in 2007, which is 1.2 - 1.3 times their annual salary [53]. According to the speciality, location, and length of the va-

cancy, the cost to replace one doctor can range from hundreds of thousands to more than $1 million [54] [55]. Numerous modest studies suggest that doctors who are overworked or exhausted may order more tests and make more referrals [56] [57].

In studies of nurses, burnout and work unhappiness were associated with intentions to leave one's current job or the nursing profession [52]. While quitting a job or working fewer hours may offer some relief to the person concerned [58], these measures further burden a healthcare system already struggling to meet the demand for access. The emotional weariness of nurses may cause a shortage of nurses to worsen, resulting in patients receiving subpar nursing care [59]. Since nurses are typically the first to provide community health care in several low- and middle-income countries, the high burnout rate among nurses may affect patient safety [10].

2. Methods

2.1. Study Design and Site

This cross-sectional study involved healthcare professionals at the Seventh Day Adventist (SDA) Hospital, Tamale, Northern Region. The study took place from January to February 2023. A questionnaire was used for data collection.

2.2. Study Population

The study's population included healthcare professionals who were doctors, physician assistants, nurses, midwives, pharmacists, and medical laboratory scientists.

2.3. Sample Size and Sampling Method

A mathematical procedure developed by Miller and Brewer for predicting single proportions was used to determine the sample size. A 7% margin of error was allowed for the average standard deviation, defined at a 95% confidence level.

The formula employed was:

$$n = N \Big/ \left(1 + N * e^2\right)$$

where:

n = sample size;

N = total population of health care workers in the hospital = 262;

e = margin of error= 0.07.

The sample size was calculated as

$$n = 262 \Big/ \left(1 + 262 * (0.07)^2\right)$$

$$= 114.7$$

Adding an attrition rate of 10%, the final sample size = 114.7 + (114.7 * 0.1) = 114.7 + 11.47= 126.17.

Thus, a sample size of 126 was used.

2.4. Data Collection Technique and Tools

Convenience sampling was used. The researcher introduced himself to the participants, and respondents were briefed on the study objectives. All individuals verbally agreed to participate in the study, after which they were consented and given a questionnaire to fill out, which contained the study's objectives. The variables included the respondent's demographics, factors contributing to burnout, effects on healthcare providers, and implications on healthcare delivery. The "Maslach Burnout Inventory" is a standardised tool to measure our participants' burnout. A 5-point Likert scale was also used to ascertain the effect of burnout on healthcare delivery.

The medical director of the SDA Hospital in Tamale was consulted for approval before the study started. English was the language used to administer the questionnaire, and the participants were assured their identities would remain anonymous and were not obligated to participate in the study. This step ensured that every participant's responses were entirely sincere.

2.5. Data Analysis

The data was entered into an Excel spreadsheet, cleaned and analysed using Epi info version 7.2.5.0. The responses were displayed in tabular and graphical formats, and percentages and frequencies were calculated. A p-value of ≤0.05 was considered statistically significant.

3. Results

3.1. Demographic Characteristics of Respondents

A total of 126 volunteers agreed to take part in the study. The average age of the respondents was 29.69 ± 5.36 years old; 46.03% of participants were between the ages of 26 and 30. Seven responders were 41 years and above (5.6%) (Table 1).

Eighty females (80), representing 63.49% of respondents, participated in the study. There were 59.52% Christians and 39.68% Muslims (Table 1).

Most respondents were nurses, representing 53.17%; doctors were only 7.14% of the participants in the study (Table 1).

3.2. Assessing the Risk of Burnout Using the Maslach Burnout Inventory

The Maslach Burnout Inventory (MBI) was used to gauge the respondents' risk of burnout. The MBI divides burnout into three categories: personal achievement, depersonalization, and emotional exhaustion. Each category's risk of burnout can be classified as Low, Moderate, or High, based on the total points in each category. An individual is said to have burnout when he/she scores a high level of risk in all three components.

From the results of this study, there was a low risk of burnout in the emotional exhaustion component for 57.94% of respondents, 35.71% in the depersonalization group and 43.65% in the personal achievement group (Table 2).

Table 1. Socio-demographic characteristics of respondents.

Variable	Category of staff	Frequency (n = 126)	Percentage (%)
Age groups.	21 - 25	30	23.81
	26 - 30	58	46.03
	31 - 35	18	14.29
	35 - 40	13	10.31
	>40	7	5.56
Gender	Male	46	36.51
	Female	80	63.49
Marital status	Married	54	42.86
	Single	68	53.97
	Divorced	4	3.17
Participants with children	Yes	54	42.86
	No	72	57.14
Religion	Christianity	75	59.52
	Islam	50	39.68
	Traditional	1	0.79
Category of healthcare professional	Doctors	9	7.14
	Nurses	67	53.17
	Physician Assistants	7	5.56
	Laboratory Scientists	8	6.35
	Pharmacists	7	5.56
	Midwives	28	22.22

Table 2. Risk of burnout using the Maslach Burnout Inventory.

Variable	Category	Frequency (n = 126)	Percentage (%)
Emotional exhaustion	Low	73	57.94
	Moderate	35	27.78
	High	18	14.29
Depersonalization	Low	45	35.71
	Moderate	34	26.98
	High	47	37.30
Personal achievement	Low	55	43.65
	Moderate	23	18.25
	High	48	38.10

Of the healthcare professionals in the hospital who participated in the study, only 6 (4.76%) were found to have burnout.

Table 3 shows the relationship between burnout and the socio-demographic characteristics of the respondents. All the various socio-demographic characteristics: gender, marital status, having children, and the category of healthcare professionals were all found not to be significantly associated with burnout.

The factors contributing to burnout included: work overload (61.11%), inadequate staff situation to man the various units and work areas (57.14%), working overtime (50.19%) and low salary (50%) (Table 4)

Table 3. Relationship between burnout and socio-demographic characteristics.

Variable	Category	Burnout		Chi-square	P-value
		Yes	No		
Gender	Male	3	43	0.495	0.482
	Female	3	77		
Having children	Yes	4	50	1.458	0.227
	No	2	70		
Marital status	Single	4	50	1.530	0.465
	Married	2	66		
	Divorced	0	4		
Category of healthcare professional	Doctor	1	8	3.049	0.692
	Nurses	3	64		
	Physician assistant	0	7		
	Laboratory scientist	0	8		
	Pharmacist	1	6		
	Midwife	1	27		

Table 4. Determinants of burnout.

Factor	Frequency (n = 126)	Percentage (%)
Work overload	77	61.11
Lack of staff	72	57.14
Working overtime	64	50.79
Low salary	63	50.00
Distance to workplace	48	38.10
Family related problems	35	27.78
Patient care	29	23.02
Problems with colleagues	28	22.22
Years of experience	9	7.14

3.3. Effects of Burnout on Healthcare Professionals

Most respondents, 83.33%, posited that burnout affected healthcare professionals, while the remaining 16.67% believed burnout did not affect healthcare professionals.

Most respondents, 68.25%, stated that physical exhaustion was the chief effect of burnout on healthcare professionals, followed by depression at 42.86% (Figure 1)

From our study, ninety-two per cent (92%) of respondents considered burnout to have a possible effect on healthcare delivery. Eight per cent thought otherwise. Increased medical errors, 73.02%, topped the chart as burnout's main effect on healthcare delivery. Over 20% said increased healthcare costs also impacted healthcare delivery (Figure 2).

4. Discussion

4.1. Socio-Demographic Characteristics of the Respondents

Our study aimed to identify the determinants associated with burnout among healthcare professionals and its implications on healthcare professionals and healthcare delivery. The sociodemographic characteristics observed in this cohort showed that most participants were between the ages of 26 and 30 and had an average age of 29.69 years, consistent with the findings of other authors [15] [24] [27]; in these works and ours, young professionals were at a higher risk of experiencing job burnout. One hundred and -twenty-six healthcare practitioners participated in the study which included doctors, physician assistants, nurses, pharmacists, laboratory scientists and midwives. Females comprised most of the

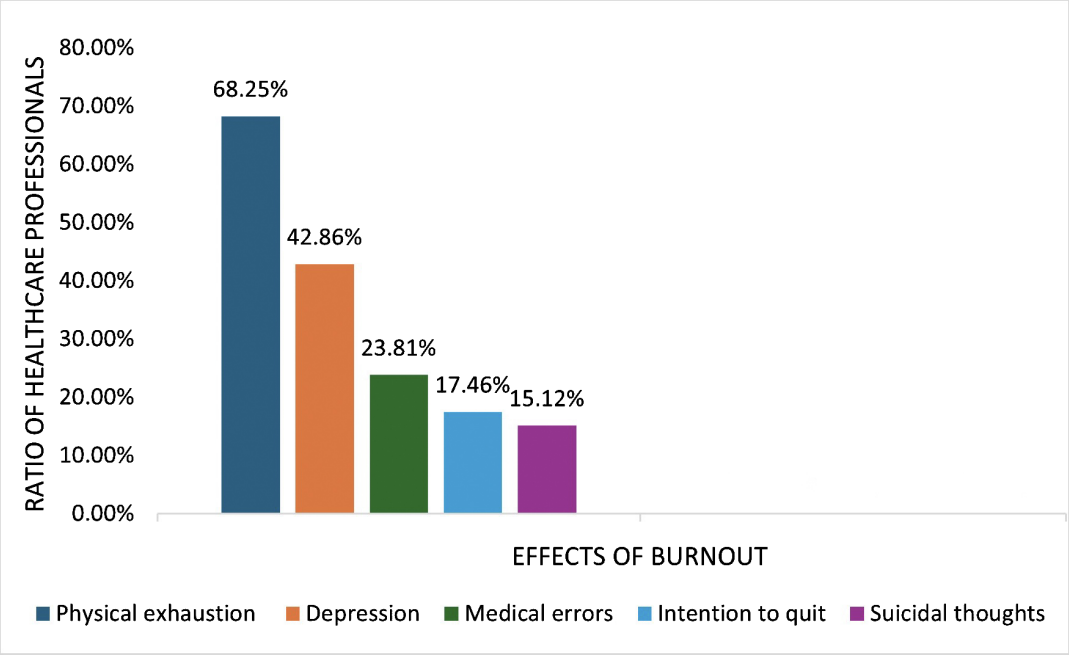

Figure 1. Showing the various effects of burnout on healthcare professionals.

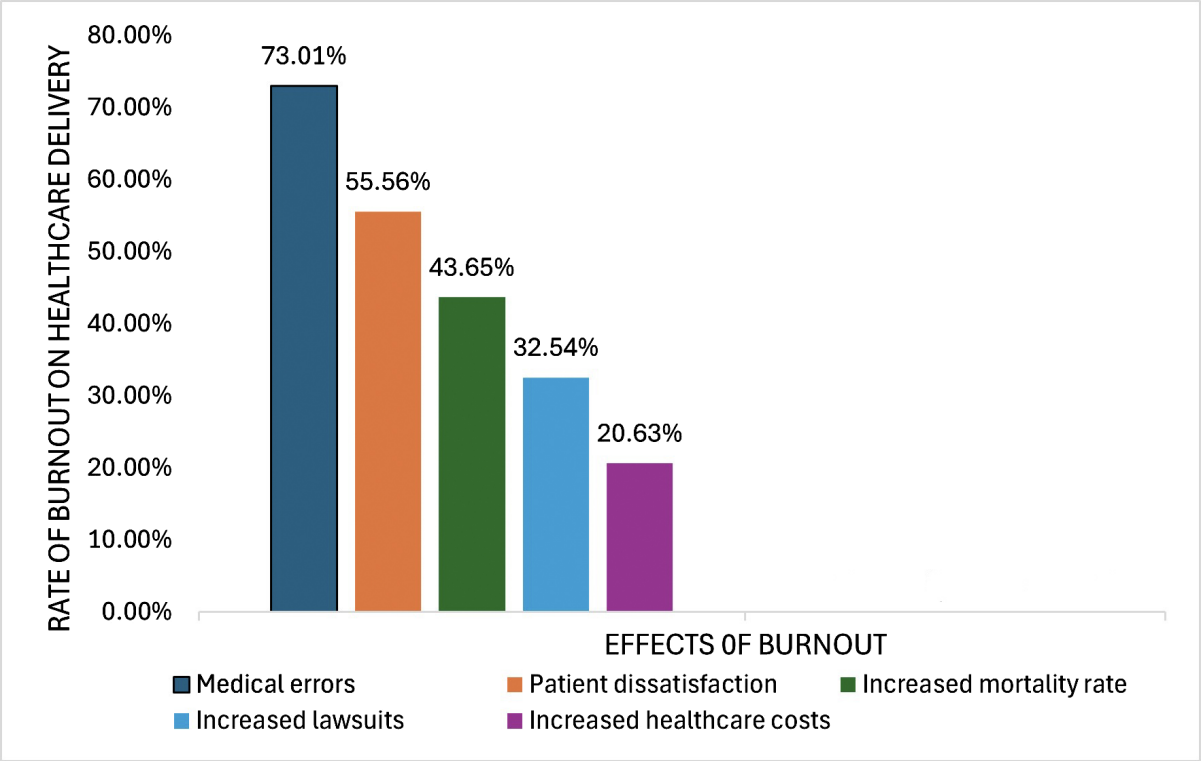

Figure 2. Various effects of burnout on healthcare delivery.

participants; about half of the study participants were nurses, with midwives making up about a fifth of the group. This result is similar to other studies where young nurses are the majority and spend most of their time with the patients. [5] [28] [31].

4.2. Relationship between Burnout and Socio-Demographic Characteristics

According to [15], healthcare workers with children had a higher risk of burnout than those without children. Respondents in our study who were single and suffering from burnout outnumbered their married colleagues by a 2:1 ratio. However, this finding conflicts with [15], who discovered that married people have a higher risk of burnout than single people. In addition, this study discovered that nurses had the highest incidence of burnout among all types of healthcare professionals who participated in our research, which is consistent with the results of [15]. This study found that the risk of suffering from burnout for both males and females was the same; this was in various with the findings of [23] [24], who, in their studies, concluded that there was a higher risk of burnout in males than females consistent with the work of [23] and [24]. Also, the results of our study conflict with [15], who discovered that females were 1.2 times more at risk of burnout than males.

4.3. Determinants of Burnout of Burnout

The reported cause of burnout among our participants was the years of working

experience, consistent with a systematic review by [5] on the incidence and risk factors for burnout among frontline primary healthcare providers in low- and middle-income countries. Our study also found that family-related issues caused burnout in our respondents. Healthcare professionals with children had a two-fold increased risk of burnout compared to those who did not have children [60].

Among the various determinants of burnout, most respondents stated work overload, 61.11%, as the most critical cause of burnout. This finding is consistent with that of [61], who found that work overload was a determinant of burnout. Also, many respondents suggested the unavailability of enough staff as a contributory factor to burnout, which agrees with the works of [62] and [62]. Working overtime was another factor that contributed significantly to burnout, according to our respondents, which is mainly because of a combination of job overload and staffing shortages. The literature established the link between a high workload, working overtime, and burnout among primary healthcare workers in low- and middle-income countries in a systematic review and meta-analysis published in 2022 [10]. Additionally, this meta-analysis [10] found the distance covered to the workplace to be a factor for burnout in low- and middle-income nations.

Half of the respondents mentioned a low salary as a cause of burnout; a similar trend was described by [38] on the desire among Ghanaian nurses to quit the nursing profession. In addition to low salaries, [63] added that patient care adversely affected healthcare staff; this study concluded that patients' and patients' relatives' abuse of healthcare professionals contributed significantly to burnout [63]. The last aspect of Lahaina's findings agrees with the present study since around a quarter of the respondents named patient care a factor in burnout. Conflicts with colleagues were other reasons mentioned by our respondents as causes of burnout; this is consistent with research on workplace bullying [64].

4.4. Effects of Burnout on Healthcare Professionals

Most of the study participants affirmed that burnout affected healthcare professionals. Physical exhaustion was the most cited effect of burnout on healthcare professionals, consistent with [33] and [35] findings. Besides physical exhaustion, about half of the participants cited depression as an effect of burnout on the healthcare professional. In a study by Olson *et al.* [65], among new graduate nurses, depression was noted as an effect of burnout.

A quarter of the study's participants mentioned that burnout results in medical errors in healthcare personnel. This finding aligns with a 2010 study by [39] that identified that burnout resulted in medical errors among American surgeons. This study's results agree with those of [65], who discovered a substantially increased chance of medication error in emotionally worn-out nurses. Another consequence/effect of burnout was the intention to quit the current job. Contrary to the study by Opoku *et al.* [39], which found that 49.3% of the participants desired to quit their jobs, this present study noted that only 17.5% of

respondents intended to quit. Recognising the effect of burnout on the intention to quit a job will empower the healthcare systems to set up public health policies to reduce burnout among healthcare professionals.

The likelihood of having suicidal thoughts was low in our study; this contrasts with research conducted in 2011 by Shanafelt *et al.* [66] on suicidal ideation among American surgeons, which revealed a 200 per cent possibility of having suicidal thoughts.

4.5. Effects of Burnout on Healthcare Delivery

Burnout's main impact on healthcare delivery was an increased likelihood of medical errors. This result agrees with the conclusions of Olson *et al.* [65] and Koy *et al.* [38], who found out that over 70% of their respondents said burnout significantly impacts healthcare delivery to patients. Another often-mentioned factor that impacted burnout in healthcare delivery was patient dissatisfaction.

In our study, the respondents asserted that over 55% of the patients were disappointed with the services rendered. The state of the mental health of the workforce can significantly impair productivity; this was found in a study conducted in Nigeria by [67], where positive screens for depression had a significant association with lower presenteeism related to the effects of burnout on patient care.

A commonly mentioned impact of burnout on healthcare delivery was increased deaths in a facility. In our study, according to the responses by our participants, this was about 44%, This finding may be a result of a rise in medical errors. The emotional exhaustion of doctors and the rising patient mortality ratio are related [45]. Another effect mentioned was the possible increase in medical malpractice lawsuits, which agrees with a study by Balch *et al.* [29] that found that involvement in a malpractice lawsuit independently correlated with burnout and consequently affected healthcare delivery.

Increased healthcare costs, according to our study, did not have much effect on burnout concerning healthcare delivery; this is consistent with the findings of [42] [43], and [44], who reported an indirect relationship between burnout and rising healthcare costs.

5. Conclusion

Using the Maslach Burnout Inventory revealed that a few of our study participants experienced burnout. The factors contributing to burnout among healthcare workers included work overload, insufficient staff numbers, working overtime, low salary and incentives, long distances travelled to the workplace, family-related problems, patient care, conflicts with co-workers, and years of working experience. In addition, demographic traits such as marital status, having children, and the category of healthcare profession one belonged to, were all linked to burnout. The effects of burnout are physical exhaustion, depression, increased risk of medical errors, intention to quit the job and suicidal thoughts;

burnout also has tremendous consequences on healthcare delivery. Employing enough healthcare professionals with the right qualifications will reduce the effects of burnout and suicidal thoughts. Appropriate compensation for healthcare professionals will encourage them to stay at work and help minimise situations that can lead to burnout.

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University for Development Studies School of Medicine

Questionnaire.

TOPIC: Determinants and effects of burnout on healthcare professionals and healthcare delivery at the Seventh Day Adventist (SDA) Hospital, Tamale, in the Northern Region of Ghana

Please answer the following enquiries to the best of your ability. Accepting to help complete this questionnaire means you now consent to participate in this study. Your responses will be treated with the utmost confidentiality because this research is conducted for academic purposes.

SECTION A: DEMOGRAPHY

1. AGE: …….
2. SEX: [ ] Male [ ] Female
3. MARITAL STATUS [ ] Married [ ] Single [ ] Divorced [ ] Separated [ ] Cohabitation
4. CHILDREN [ ] Yes [ ] No
5. RELIGION [ ] Christianity [ ] Islam [ ] Traditional Other……..
6. GROUP OF HEALTHCARE PROFESSIONAL

   [ ] Doctor [ ] Nurse [ ] Physician Assistant [ ] Lab Scientist

   [ ] Pharmacist [ ] Midwife Other…….
7. ETHNICITY [ ] Dagomba [ ] Akan [ ] Gonja [ ] Mamprusi Other……..

SECTION B: ASSESSING RISK AND LEVEL OF BURNOUT USING THE MASLACH BURNOUT INVENTORY

Kindly take this quick survey to assess your risk and level of burnout.

1. Emotional Exhaustion

Questions:	Never	A Few Times per Year	Once a Month	A Few Times per Month	Once a Week	A Few Times per Week	Every Day
Section A:	0	1	2	3	4	5	6
I feel emotionally drained by my work.							
Working with people all day long requires a great deal of effort.							
I feel like my work is breaking me down.							
I feel frustrated by my work.							
I feel I work too hard at my job.							
It stresses me too much to work in direct contact with people.							
I feel like I'm at the end of my rope.							
Total score - SECTION A							

2. Depersonalization

Questions:	Never	A Few Times per Year	Once a Month	A Few Times per Month	Once a Week	A Few Times per Week	Every Day
Section B:	0	1	2	3	4	5	6
I feel I look after certain patients/clients impersonally as if they are objects.							
I feel tired when I get up in the morning and have to face another day at work.							
I have the impression that my patients/clients make me responsible for some of their problems.							
I am at the end of my patience at the end of my work day.							
I don't care about what happens to some of my patients/clients.							
I have become more insensitive to people since I've been working.							
I'm afraid that this job is making me uncaring.							
Total score - SECTION B							

3. Personal Achievement

Questions:	Never	A Few Times per Year	Once a Month	A Few Times per Month	Once a Week	A Few Times per Week	Every Day
Section C:	0	1	2	3	4	5	6
I accomplish many worthwhile things in this job.							
I feel full of energy.							
I am easily able to understand what my patients/clients feel.							
I look after my patients'/clients' problems very effectively.							
In my work, I handle emotional problems very calmly.							
Through my work, I feel that I have a positive influence on people.							
I am easily able to create a relaxed atmosphere with my patients/clients.							
I feel refreshed when I have been close to my patients/clients at work.							
Total score - SECTION C							

SECTION C: FACTORS CONTRIBUTING TO BURNOUT

1. What are the risk factors of burnout? Choose as many options as applicable.

[ ] Job Overload [ ] Lack of staff [ ] Low salary [ ] Working overtime

[ ] Patient care [ ] Problems with colleagues [ ] Family related problems

[ ] Distance to workplace [ ] Years of experience Other……..

SECTION D: ASSESSING THE EFFECT OF BURNOUT ON HEALTHCARE PROFESSIONALS

1. Has burnout affected you as a healthcare professional?

[ ] Yes [ ] No

2. If yes, what has been the effect of burnout on you as a healthcare professional? Choose as many options as applicable.

[ ] Physical exhaustion [ ] Depression [ ] Suicidal thoughts

[ ] Intention to quit [ ] Increased risk of medical errors other……..

3. If No, why?

……

SECTION E: ASSESSING THE EFFECT OF BURNOUT ON HEALTHCARE DELIVERY

1. Do you think burnout affects healthcare delivery?

[ ] Yes [ ] No

2. If yes, in your opinion, what are some of the implications of burnout on healthcare delivery? Choose as many options as applicable.

[ ] Increased risk of medical errors [ ] Increased risk of lawsuits [ ] Increased mortality ratio

[ ] Patient dissatisfaction [ ] Increased healthcare costs other…….

3. If No, why?

…….. ……