

Master of Science in Public Health



**Burnout and Job Satisfaction among Doctors in
Tertiary Care Hospitals of Gilgit-Baltistan**

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***(Burnout and Job Satisfaction among Doctors in
Tertiary Care Hospitals of Gilgit-Baltistan)***

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DECLARATION

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I understand that plagiarism is the use or presentation of any work by others, whether published or not, and can include the work of other candidates. I also understand that any quotation from the published or unpublished works of other persons, including other candidates, must be clearly identified as such by being placed inside quotation marks and a full reference to their source must be provided in proper form.

This dissertation is the result of an independent investigation. Where my work is indebted to others, I have made acknowledgments.

I declare that this work has not been accepted in substance for any other degree, nor is it currently being submitted in candidature for any other degree.

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This thesis is dedicated to
*My parents and
my Supervisor and mentor,
Dr. Ume Sughra.*

ABSTRACT

Background: Physical and emotional burnout among healthcare workers is evolving as an important public health problem because of its extensive linkage with patient satisfaction, treatment outcomes as well as job satisfaction among health professionals.

Objectives: This study was conducted to assess burnout and job satisfaction among doctors working at tertiary care hospitals of Gilgit-Baltistan, Pakistan and to find the factors that are associated with burnout and job satisfaction among doctors.

Methodology: A cross-sectional study was carried at tertiary care hospitals of Gilgit-Baltistan, Pakistan. A total of 201 respondents were selected through non-probability consecutive sampling. Maslach Burnout Inventory (MBI) was used to measure burnout while job satisfaction was measured using Minnesota satisfaction questionnaire (MSQ). Data was entered and analyzed using SPSS version 26.0. Pearson Chi Square test of Independence was applied to examine the association of burnout and job satisfaction among doctors with socio-demographic factors.

Results: Among the 201 respondents, most of them were male (n=134, 66.7%) and the age of respondent mostly varied between 30-39 (n=82, 40.8%). Majority of the respondents reported moderate levels of burnout (n= 108, 53.7%) and moderate level of job satisfaction (n= 117, 58.2%). Gender, age of the respondents, working status of spouse, and qualification, designation and years of service of the respondents were significantly associated with burnout among doctors while age, designation and duration of service were significantly associated with job satisfaction among them.

Conclusion: It is concluded that majority of the doctors working in Gilgit Baltistan reported moderate levels of burnout and job satisfaction. Male gender and younger age group is more prone to develop high levels of burn out while elder age groups reported

high levels of job satisfaction.

Keywords: Burnout, Doctors, Gilgit-Baltistan, Job satisfaction, Pakistan, Tertiary care hospitals.

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List of Abbreviations

EE	Emotional Exhaustion
GB	Gilgit Baltistan
IRB	Institutional Review Board
MBI	Maslach Burnout Inventory
MSQ	Minnesota satisfaction questionnaire
PA	Personal Accomplishment
SPSS	Statistical Package for Social Sciences
WHO	World Health Organization

CHAPTER I INTRODUCTION

According to World Health Organization (WHO), “Health is a complete physical, mental and social wellbeing of an individual and not merely the absence of disease or infirmity. In view of this comprehensive concept, mental and social well-being are equally important for healthy individuals and communities. Traditionally, physical aspects of health have been emphasized and still there is no significant attention towards mental and social domains of health in the under developing world. This negligence is resulting countless consequences, for example, burnout, stress, depression, anxiety etc. It is pertinent to mention that profession and social class of a person is strongly associated with mental health. There are certain professions which demand more strength and perseverance. Health care professionals are one of them. The mental and psychosocial advancements affect the wellbeing of workers which ultimately has a greater influence in terms of comfort and distress (i.e job satisfaction, pressure and burnout). Reports have revealed that workforce crisis, long working hours, stressful working environment, inadequate income, fewer family times and deprivation of rest, expose healthcare professionals to certain amount of burnout and job dissatisfaction (Anwar et al., 2019)

Burnout is a syndrome resulting from chronic work-related stress characterized by feeling of energy depletion or exhaustion, increased mental distance from one’s job or feeling of negativism related to one’s job and reduced professional efficiency (WHO., May 2019). Job satisfaction according to the definitions of contemporary psychology,

a state of positive or negative feelings that refer to a worker's professional duties which results in his/her attitude towards work. The satisfaction can be positive, if the employee is satisfied with entrusted tasks and working conditions or negative, if the job does not meet the expectations. Job satisfaction is a function of comparison of inputs and outputs from the perspective of an employee (Kobza & Syrkiewicz-Świtała, 2018). Worldwide studies display that job satisfaction is connected to the stress levels, working hours as, well as efficiency (Goetz et al., 2019).

Owing to the stressful nature of profession, doctors are at high risk of burn out. Healthcare professionals may face problems in meeting patient's expectations. The heavy influx of patients, increasing awareness and responsibilities are the main reasons of occupational burdens and increasing prevalence of burnout among healthcare professionals (Sonmez O et al 2020). According to Maslach et al. long-lasting tension or stress at the individual level in relations to his/her employment generates burnout syndrome, which is categorized by emotional tiredness, depersonalization and lessened personal achievements. Healthcare employees have been exposed to jeopardy of exhaustion and low job satisfaction due to the nature of their occupation (assignments, patient care, medical faults and work-life equilibrium. (Molina- Hernández et al., 2021).

High work stress, occupational burnout and low job satisfaction is common among healthcare professionals. A study was conducted on primary healthcare workers in china, described that marital status, work related stress, monthly salary and satisfactory income were linked with emotional exhaustion and marital status as a predictor of

depersonalization (Lee et al., 2019).

The occurrence of burnout among doctors is not evenly distributed globally. Chopra et al. describes commonness of burnout among working physicians in their article by summarizing numerous studies. Moderate to high emotional exhaustion is reported by approximately 46% to 80% of practicing doctors, depersonalization 22% to 93%, whereas moderate to low level of personal achievement is 16% to 79%. Several factors lead to such variations of burnout in physicians. Subsequent studies have showed societal, demographic, economic and profession related explanations in diverse set ups of the sphere to rule out fundamental features for job burnout among doctors. It is common that efficient service delivery is strongly influenced by mental, psychological and emotional health. Burnout ultimately resulted from a stressful environment directly leads towards impairment of productivity and enhances chance of anxiety.

Studies have been conducted to determine burnout, job satisfaction and the effects on mental health among healthcare professionals across the developed countries. Burnout emerging as a threat to professional activities of healthcare providers in developing countries. Pakistan being in the list of developing countries is no more different in this scenario where pressure on the health care system is unique, insufficient workforce, over-burdened facilities and the doctor to patient ratio is in high contrast to developed countries (Zubairi and Noordin, 2016).

As reported by WHO in 2006, there are less than 23 healthcare workers (doctors, nurses and midwives) per ten thousand people in low income countries including Pakistan. The situation would be even meager in the rural areas, AJK, Balochistan and Gilgit-

Baltistan. Gilgit-Baltistan (GB), one of the federally administered territories of Pakistan is the northern most territory having international boundaries with Indian-occupied Jammu and Kashmir, China, Tajikistan and Afghanistan. Gilgit-Baltistan is located at the intersection of extreme mountain terrain comprising Karakorum, Hindukush and Himalayas. It has an estimated population of 1.8 million people in 2015. A large part of the region remains snow covered which results in very low temperatures, i.e Skardu and Gilgit are the major cities where minimum temperature remains below “zero” for 4-5 months in a year.



Figure 1: Map of Gilgit-Baltistan

(93ne3vgZ). (2023). Administrative map of Gilgit Baltistan. Retrieved from [http:// www.vectorstock.com/royalty-free-vector/adminstrative-map-gilgit-baltistan-vector-32244406](http://www.vectorstock.com/royalty-free-vector/adminstrative-map-gilgit-baltistan-vector-32244406)

The geographical and climatic characteristics, frequent landslides and heavy snow fall pose challenges to the healthcare delivery. Harsh winters also create problems in maintaining supply chain system for service delivery. Healthcare workforce is not sufficient for the provision of services as per WHO recommendations of minimum required standards. The doctors to population ratio (2: 10,000) is much lower than the national average (8: 10,000) (Health Strategy 2022-26 | Department of Health, Government of Gilgit Baltistan).



Figure 2: Tertiary care hospitals of Gilgit-Baltistan

Khan, N. (2020, May 27) DHQ Hospital Gilgit. Retrieved

from <https://www.google.com/search?q=dhq+hospital+gilgit&sxsrf>. (Source).

On the whole, “Gilgit-Baltistan health sector” is facing huge shortage of health workforce that over-burdens the tertiary health care facilities, whereby increasing the risk of burnout and job dissatisfaction among healthcare professionals. Current study analyzed the prevalence of burnout and the extent of job satisfaction among the broadly categorized groups of doctors, i.e specialists, general practitioners and health managers in the tertiary care health facilities of “Gilgit-Baltistan”.

1.1 Rationale:

Physical and emotional burnout among healthcare workers is emerging as an important public health issue because of its widespread linkage with patient satisfaction, treatment outcomes as well as job satisfaction among health professionals (Anwar et al., 2019). Various studies have been carried out to explore the dimensions of burnout among healthcare professionals. However, there is paucity of literature regarding physical and emotional health of healthcare workers in the area of Gilgit Baltistan.

Therefore, the present study was conducted to determine the prevalence of burnout among healthcare professionals and find out the level of job satisfaction among them. It was also aimed at finding various socio-demographic factors that are associated with burnout and job satisfaction among doctors in the area of Gilgit Baltistan.

Findings of the study will be a valuable addition in the current literature. Along with this, these findings will also help to provide insights regarding different factors which are associated with job satisfaction among doctors.

1.2. Objectives

- i. To determine the prevalence of burnout and job satisfaction among doctors working in public sector hospitals of Gilgit Baltistan.
- ii. To find out association of socio-demographic factors with job satisfaction and burnout.

CHAPTER II: LITERATURE REVIEW

Burden of diseases, patient security, system errors and work life balance have always been the key problems of health care professionals. This has drawn the attention of researchers to find out the associated causes and contributing factors.

Medical profession is being drastically influenced by the ever changing socio-occupational characteristics and emerging technologies. Potential factors for these variations may include the quantity of increasing number of fresh graduates, disparity among wages, types of bonds, job security and the emerging demands to grow as a specialized care giver.

2.1. Gender Difference in Work Environment:

Gender discrimination has been widely discussed by many researchers to establish its association with job satisfaction. Although certain studies claim that there are certainly no gender variances, other researches provide indications that women have lesser perceived job contentment than men. Furthermore, other studies have exposed that men have an inferior awareness of their work atmosphere and higher psychological difficulties, since women are more frequently involved in part-time jobs or for the reason that they have low job expectations (Siddiqui et al., 2022).

2.2. Prevalence of Burn-out in Healthcare Professionals:

Although there is no generalized scale to describe the extent of burnout among health care professionals. Previous studies revealed anxiety-related indications as high as more

than 70% in some intensified cases and anxiety was over 80%. It was described that only 27% of doctors broadcasted momentous depressive symptomatology, which makes us wonder about diverse aspects manipulating locally, ethnologically, or culturing the phenomenon. Lower psychological distress can be due to some social factors like being in a dedicated relationship and taking higher scores for self-efficacy, nevertheless the financial status of doctors, deficiency of staff, or conscientiousness issues, might ingress diverse results in burnout intensities (Antoniadou, 2022).

2.3. Work Related Factors of Burn- Out Syndrome in Healthcare

Professionals:

An observational study was conducted by Gómez-Polo et al. on Spanish doctors to study the socio-demographic and work-related aspects that mark the level of burnout syndrome in them. 128 Spanish doctors were approached through an online survey to record their age gender, numeral of practices, work atmosphere, working hours per week, years of practice, either they work in group or alone, and their responses to the Maslach Burnout Inventory (MBI-HSS). Socio-demographic features inspected for each of the three dimensions of burnout that is Depersonalization (DP), Personal Accomplishment (PA) and Emotional Exhaustion (EE), a uni-variate analysis was conducted. Results revealed that "Emotional Exhaustion" was greater, for women (64.4%) than men (56.7%) ($p=0.005$), for those employed in a rural scenario (70.1%) than for individuals waged in an urban locale (59.9%) ($p=0.009$), for non-owners (65.6%) in contrast to owners (58.3%) ($p =0.008$),

and for those who continuously or often work unaccompanied (63.7%), related to doctors who not once or seldom work unaided (59.9%) ($p=0.007$). However, 9.8% of doctors reported that they have experienced a higher level of burnout (Gómez-Polo et al., 2022).

A study was conducted among doctors in Bulgaria, to find the burnout levels and its related demographic features like gender, age and marital status. A random sample of 150 doctors (response rate=90.6%, $n=136$), practicing in the capital of Republic of Bulgaria- Sofia were reached while using a self-administered questionnaire comprised of 20 items concerning the socio-demographic features work atmosphere factors and routine patterns. A standard instrument MBI-HSS was implemented to measure the burnout levels like emotional exhaustion, depersonalization and reduced personal accomplishment. However, results revealed that women as compared to men verified lower level of emotional exhaustion. While dentists who were single and at the age of 41-55 years were at higher level of emotional exhaustion. 25-44 years old doctors reported extremely high level of depersonalization. Doctors having no life partner also reported high depersonalization. 25-44 years' doctors having life partners reported lesser personal accomplishment. Overall, results showed that demographic factors have a great influence on the aspects of burnout (Avramova, 2020).

According to another study, a doctor is continuously open to injurious effects of various risk factors disturbing health. The study aimed to identify the level of job satisfaction and the different elements that are accompanying with it. Sample was selected randomly and comprised of 610 dentists demonstrating various types of medical practice

surroundings in. A structured questionnaire was developed and personal interview technique was used to conduct the study. Results revealed that more than 90% of respondents affirmed pleasure with their occupation. There was an association among job satisfaction and doctor's age, gender, the place of the office and whether public or private sector practice. However, no statistically significant relationship was reported between job satisfaction and category of health professionals practice setting or salary. Conversely this study determined that advanced job satisfaction was detected in the group of fresher doctors employed in the private subdivision in big cities. Although women stated satisfaction extra frequently than men. The outside atmosphere had no influence on professional satisfaction (Kobza & Syrkiewicz-Świtała, 2018).

A cross-sectional study was conducted on doctors of CMH Lahore Medical College & Institute of Dentistry, Pakistan to assess the level of burnout and the differences in the level of burnout amongst them. A reliable and valid questionnaire merged the Copenhagen Burn out Inventory as well as demographic characteristics like age; gender etc. was used for the study. Inventory scores were examined by 5-point Likert measure in the three extents of individual burnout, work associated burn out and patient connected burnout. Assessment was unidentified. For statistical analysis SPSS 20 package was used. 157 doctors, postgraduate students and medical faculty filled the questionnaire, with 96% and 93% response rate correspondingly. Participants including most majority of females (65.6%) and medical faculty predominance were 73.2%. Individual related burnout and work linked burnout means scores were high that is 3.0 & 2.9 correspondingly but no significant variances between the two groups of doctors

were reported. A lowest average score of 2.67 was of patient related burnout and as compared to faculty members with (p-value=0.02) postgraduate residents were affected more. CMH, LMC & IOD health care professional faculty and medical postgraduate inhabitant's contract with modest burnout. Results showed that medical postgraduate residents were overripe extra as equated medical faculty. Health care professionals had high score of burnouts than postgraduate residents as merely in three out of nineteen items in inventory (College et al., 2020).

2.4. Conceptual Framework:

Grounded on the preceding literature and writings, a conceptual framework of the current study was established that focus on the contributing factors of work environment and its impact on job satisfaction and burnout in doctors.

CONTRIBUTING FACTORS

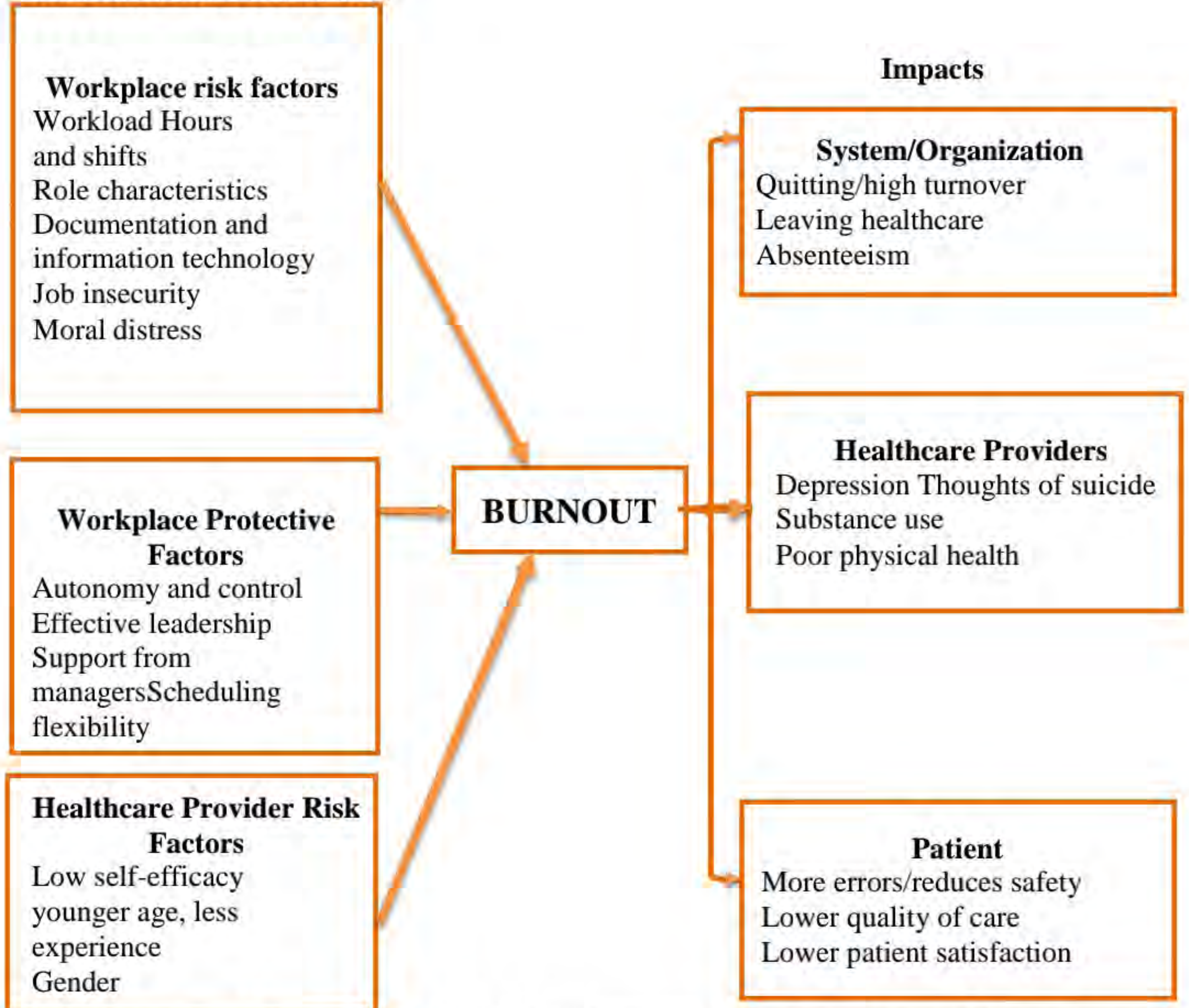


Figure 3 : Conceptual Framework of Work Environment, Job satisfaction and Burnout among Doctors

2.5. Operational Definitions:

2.5.1. Burnout:

Burnout is broadly described as a state of chronic stress or syndrome leading to physical and emotional exhaustion and lack of accomplishment (Anwar et al., 2019). In literature, Maslach Burnout Inventory (MBI) has been frequently applied to assess burn out. This tool investigates three main domains of burn out i.e depersonalization, personal accomplishment and emotional exhaustion which contain 22 items.

2.5.2. Job satisfaction:

Job satisfaction is defined as the work-related affection states covering five aspects, namely the supervisors, the job, the work colleagues, the compensation, and the promotion opportunities (Reddy et al., 2017). The most commonly used tool to assess this outcome variable is “Short Form Minnesota Satisfaction Questionnaire” (SFMSQ) which comprises 20 items.

2.5.3. Work environment:

Working environment refers to the interrelations of societal structures, environmental exposures, and psychological and psychophysiological processes that affect the health and illness of workers (Molina-Hernández et al., 2021).

CHAPTER III: METHODOLOGY

3.1 Study Design:

A quantitative research approach using cross-sectional study design was used for the current study.

3.2. Study Duration:

Study period for the current research was six months from October 2022 to March 2023.

3.3. Study Setting:

The study was carried out at five different tertiary care hospitals of Gilgit Baltistan i.e PHQ Gilgit, City Hospital Gilgit, DHQ Skardu, DHQ Chilas and DHQ Ghizer. Gilgit, being the capital of Gilgit Baltistan, is the most populous city. Therefore, PHQ and City Hospital Gilgit shoulders the main influx of patient burden, followed by DHQ Skardu which is the only tertiary care hospital of Baltistan division. PHQ Gilgit has recently been upgraded as teaching hospital, hence retaining a considerable number of doctors whereas other hospitals still lack the required number of health care professionals.

3.4. Study Participants:

Both male and female medical officers, specialists, hospital managers and dentists were included in the study.

3.4.1. Inclusion Criteria:

1. Both male and female doctors working in public sector hospitals were included.
2. Only those doctors were included who were available at the time of sampling.
3. Doctors with the length of service more than 6 months were included in this study.

3.4.2. Exclusion Criteria:

1. Individuals who were not willing to participate in this study, were excluded.
2. Trainees and students were excluded
3. Health care providers other than doctors were excluded.

3.5. Sample Size Calculation:

Sample size was calculated using proportion formula for sample size calculation in Open-Epi menu, Version 3.01 software. Previous prevalence of burnout was taken as 38% as reported by a study conducted in (Naeem Liaquat et al, 2019). Calculated sample size was 191 with 95% confidence interval (C.I) and 5% margin of error. After adding 5% non-response rate, final sample size came out to be 201 doctors.

3.6. Sampling Strategy:

Desired sample was collected using non-probability consecutive sampling.

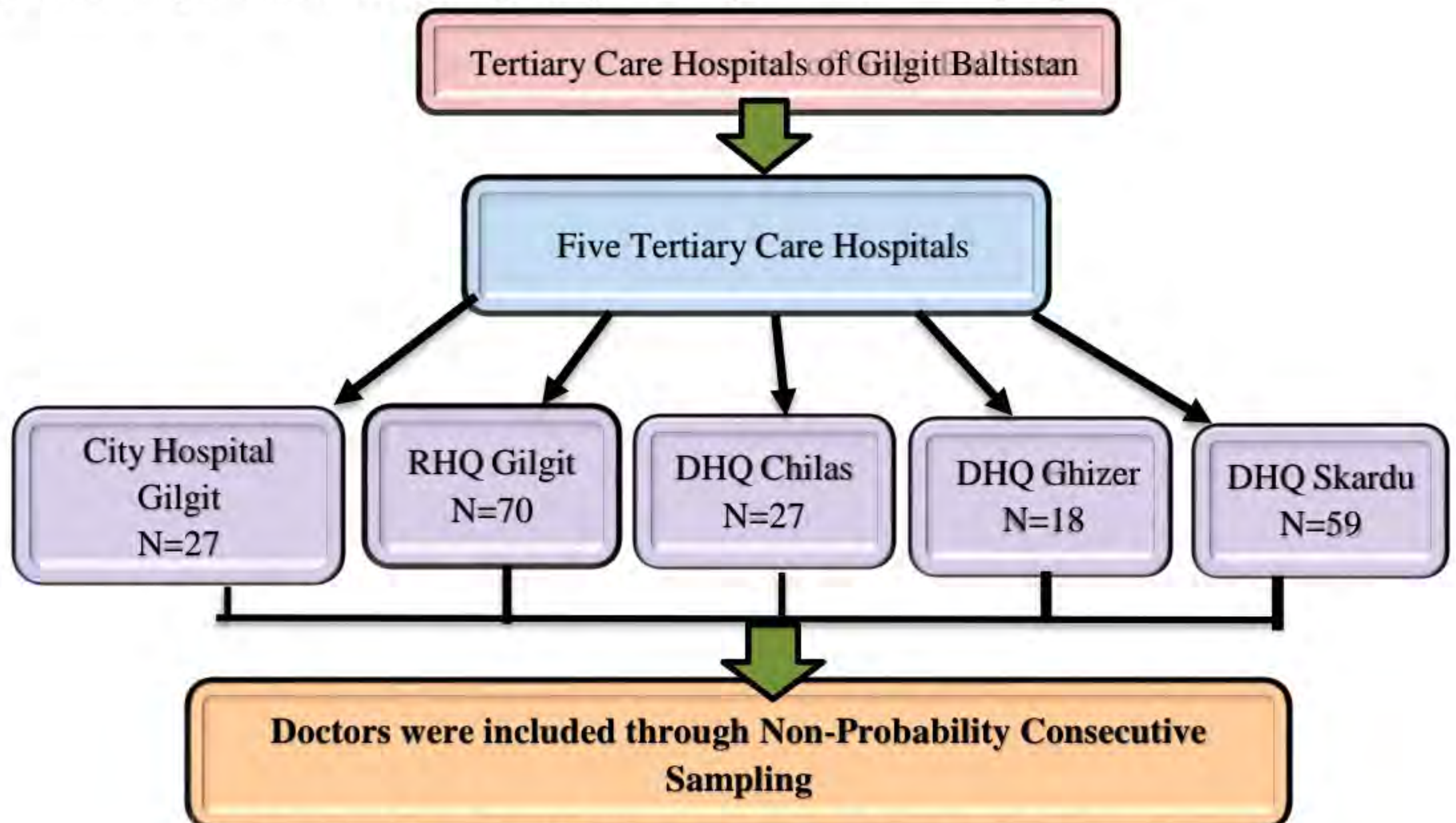


Figure 4: Non-Probability Consecutive Sampling Strategy

3.7. Data Collection Instrument:

3.7.1. Questionnaire Design:

Data was collected using an interview-administered questionnaire. A Performa was developed to collect data regarding socio-demographic characters of the respondents, Minnesota satisfaction and Maslach burnout inventory. Questionnaire was developed using validated tools of Minnesota Satisfaction Questionnaire (SFMSQ) (David 2022) and Maslach Burnout Inventory (MBI) (Maslach et.al, 1996)

3.7.2. Content of the Questionnaire:

The questionnaire contained three major sections:

1. **First part** included questions related to socio-demographic characteristics of the respondents such as age, gender etc.

2.**Second part** included Minnesota satisfaction questionnaire (MSQ) of the respondents. Minnesota satisfaction questionnaire (MSQ) has total 20 items; graded on a five-point Likert scale from 1= not satisfied, 2=somewhat satisfied, 3= satisfied, 4= very satisfied and 5= extremely satisfied.

3.**Third part** included Maslach burnout inventory (MBI). The tool consists of 22 items which comes under 3 main domains; emotional exhaustion, personal accomplishment and depersonalization; graded on five-point Likert scale from 1= never, 2= rarely, 3= sometimes, 4= frequent and 5= always.

Different sections of MBI are shown in figure 5.

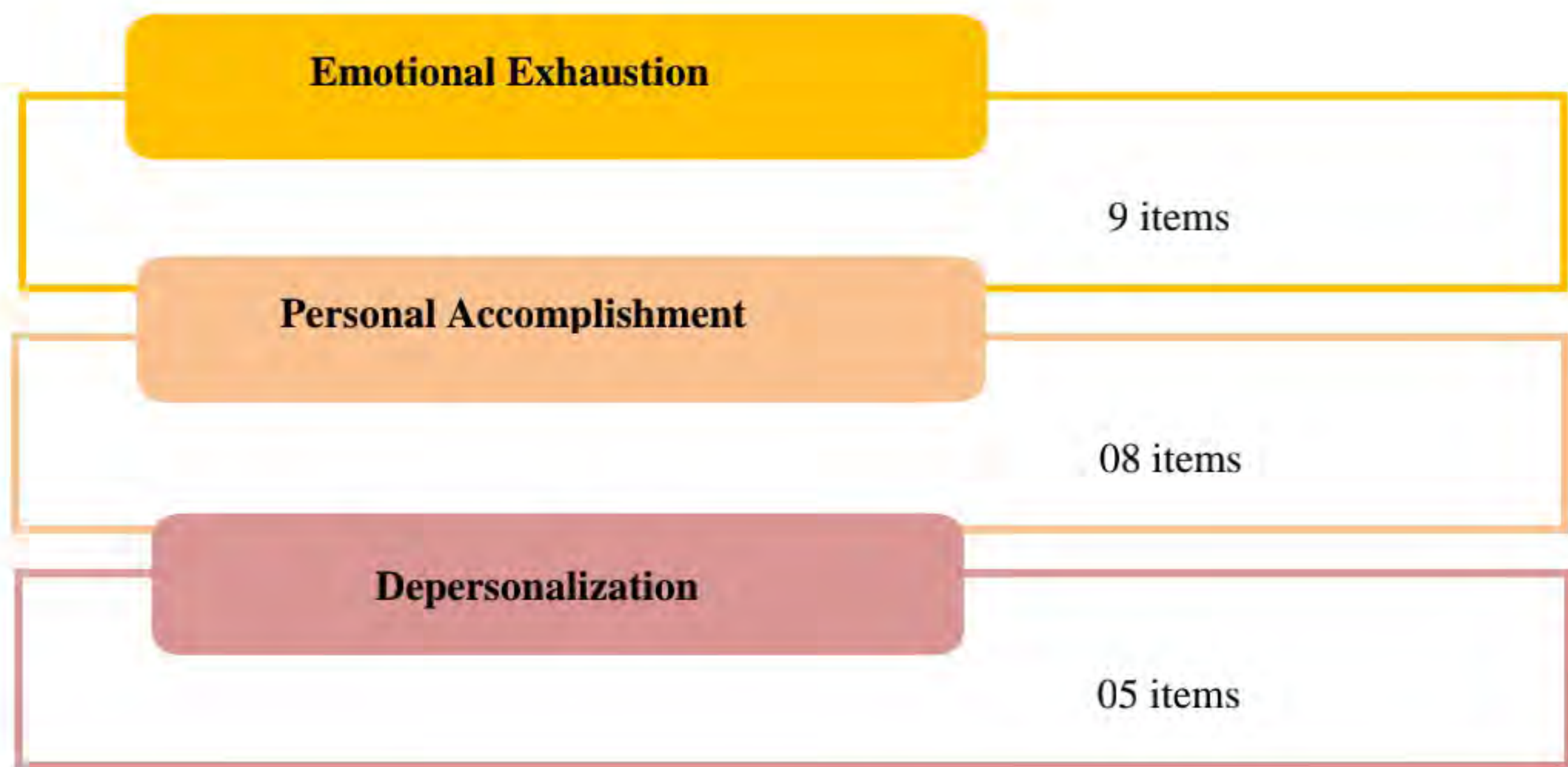


Figure 5 : Dimensions of Maslach Burnout Inventory (MBI)

Table 1: Scoring of Maslach Burnout Inventory and Minnesota satisfaction questionnaire

Maslach Burnout Inventory			
	Low-Level Burnout	Moderate Burnout	High-Level Burnout
Emotional Exhaustion	17 or less	18-29	Over 30
Personal Accomplishment	33 or less	34-39	Greater than 40
Depersonalization	5 or less	6-11	12 and greater
Total Burnout	42-62	63-78	Greater than 78
Minnesota satisfaction questionnaire			
	Low-Level Satisfaction	Moderate Satisfaction	High-Level Satisfaction
	34-50	51-66	Greater than 66

3.8. Study Variables:

3.8.1. Outcome Variable:

The major construct of the questionnaire was to assess burnout and job satisfaction of doctors. The burnout was assessed with respect to three dimensions; emotional exhaustion, personal accomplishment and depersonalization.

3.8.2. Independent Variable:

Data on independent variables was collected through a structured Performa that is constructed after international and national literature review. The Performa included socio-demographic variables such as age, gender, marital status, qualification, working status of spouse etc. In addition to these, it also included some variables that the pre-existing disease, designation, duration of service etc.

3.9. Data Collection Process:

3.9.1. Pilot Testing:

Pilot testing was performed before starting the formal data collection procedure by including 10% of the actual sample size. Performa was tested for any future changes; no major changes were done after pilot testing. Data from pilot testing was not included in final analysis. The value of Cronbach alpha for the job satisfaction scale “MSQ” was 0.75 while for Maslach burnout inventory, it came out to be 0.71. No major changes were performed after pilot testing.

3.9.2. Data Collection:

All the doctors in tertiary care hospitals were approached. Consent was taken in written form from all doctors and only those doctors were selected who agreed to take part in the research process and fulfill the inclusion criteria. After taking the consent, the doctors were given data collection Performa and they were instructed to enter the required information. During this procedure, researcher was present there to ensure that respondents filled the form correctly. Data collection was completed in approximately two months.

3.10. Data Analysis Procedure:

Code book was developed and data was entered in Statistical Package for Social Sciences (SPSS) version 26. After careful data entry, data was checked for any error before proceeding to the further analysis. Missing values were eliminated before proceeding the further analysis. After data cleaning, data transformation was carried out for certain variables. Certain continuous variables were transformed in to categorical variables for further analysis. Data computation was carried out. Data analysis was done in two phases; descriptive analysis and inferential analysis. The scheme of data analysis is shown in figure 6.

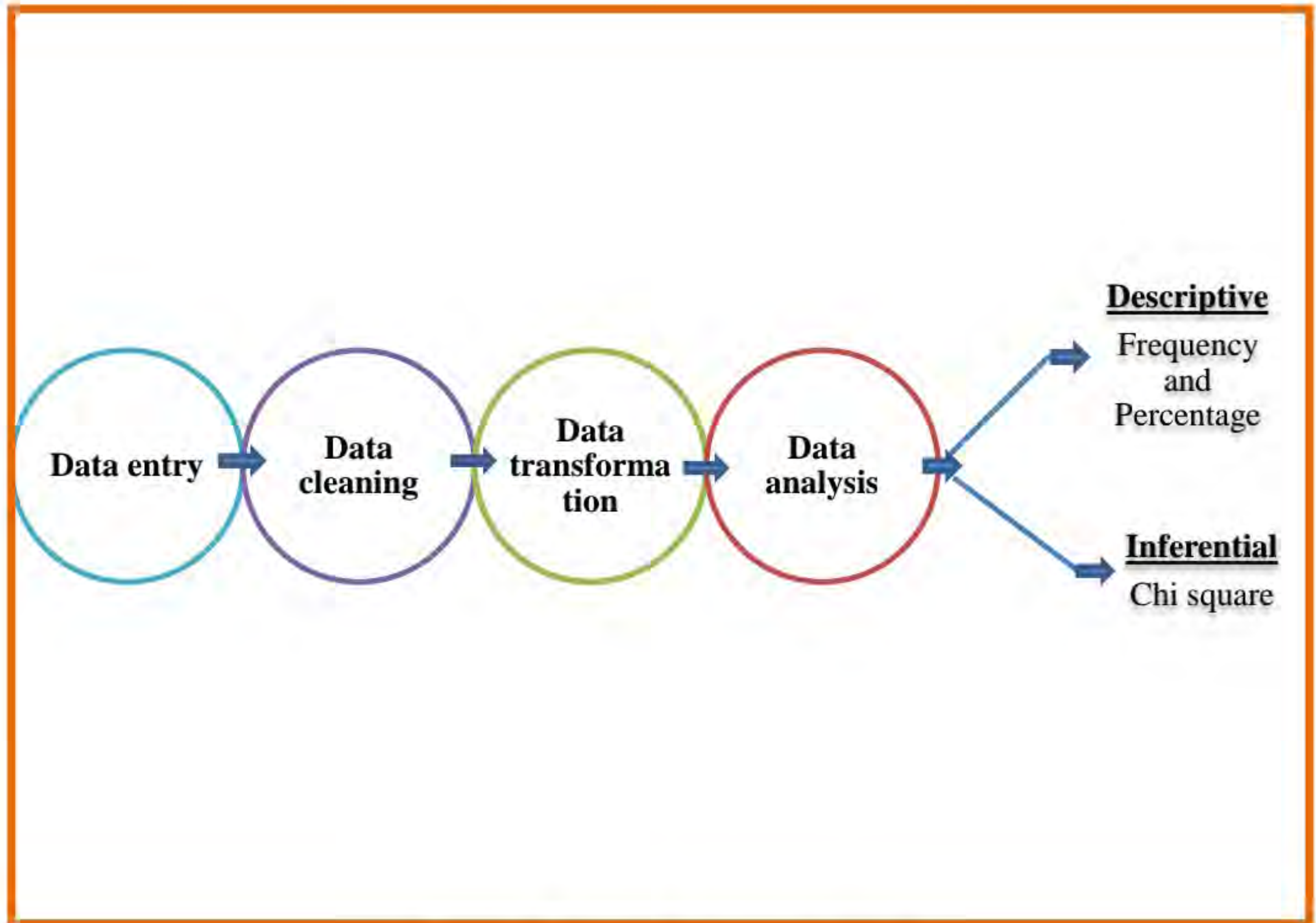


Figure 6 : Data Analysis Plan

3.10.1. Data Transformation:

Computed scores were generated for burnout and job satisfaction for each respondent. Computed score for emotional exhaustion, depersonalization and personal accomplishment were also calculated. These computed scores were further categorized into three categories. Burnout was categorized based on the instructions available in the questionnaire while job satisfaction was categorized on the basis of median.

3.10.2. Descriptive Analysis:

Descriptive statistics were generated for socio-demographic characteristics and outcome variable. Data was summarized in the form of frequencies and percentages and presented in table form, Bar chart and Pie chart.

3.10.3. Inferential Analysis:

Pearson Chi Square test of Independence was used to determine the association of burnout and job satisfaction with socio-demographic characteristics of the respondents. P value less than 0.05 was considered statistically significant.

3.11. Ethical Considerations:

Before starting formal data collection, approval from Institutional Review Board (IRB) of Al-Shifa School of Public Health Rawalpindi, Pakistan has been taken. Permission letter from the Head of Department of Al-Shifa School of Public Health was obtained regarding access to the tertiary health facilities. Various tertiary care hospitals of Gilgit Baltistan were approached for data collection. Permission was taken from hospitals for conducting research. Five tertiary care hospitals granted the permission for data collection. Respondents were explained the purpose of the research and written consent was taken from each participant before collecting the data. Data was collected from only those respondents who had agreed to participate in the research process voluntarily. Participants were assured for the confidentiality of their data. Data collected from the respondents was kept anonymous and was not shared with anyone. Data was entered

in SPSS anonymously. After data entry, hard copies of collected data were kept at a safe place.

CHAPTER IV: RESULTS

4.1. Demographic Characteristics:

A total of 201 respondents were included in the study. Majority of the respondents were male (n=134, 66.7%) and the age of respondent mostly varied between 30-39 (n=82, 40.8%). Majority of the respondents were married (n=128, 63.7). A large number of the respondents were specialists (n=107, 53.2%) and graduates (n=94, 46.8%). A detail summary of socio-demographic characteristics of the respondent presented in table 2.

Table 2: Descriptive Characteristics of Respondents

Variables	N	%
Age group		
Less than 29	70	34.8
30-39	82	40.8
40-49	36	17.9
Above 50	13	6.5
Marital status		
Single	71	35.3
Married	128	63.7
Divorce/widow	2	1.0
Working status of spouse		
Working	50	24.9
Non-working	83	41.3
Not applicable	68	33.8
Duration of service		
< 1year	39	19.5
1-5years	78	38.8
6-10years	29	14.4
>10years	55	27.4

Patients examined per month		
< 500	34	16.9
501-1000	91	45.3
1001-1500	49	24.4
> 1500	27	13.4
Pre-existing disease		
Hypertension	5	2.5
Diabetes	6	3.0
Others	2	1.0
None	188	93.5
Monthly income		
< 1 lac	18	9.0
1-3 lac	124	61.7
>3 lac	59	29.3
Qualification		
Graduation	94	46.8
Pot-graduation	107	53.2

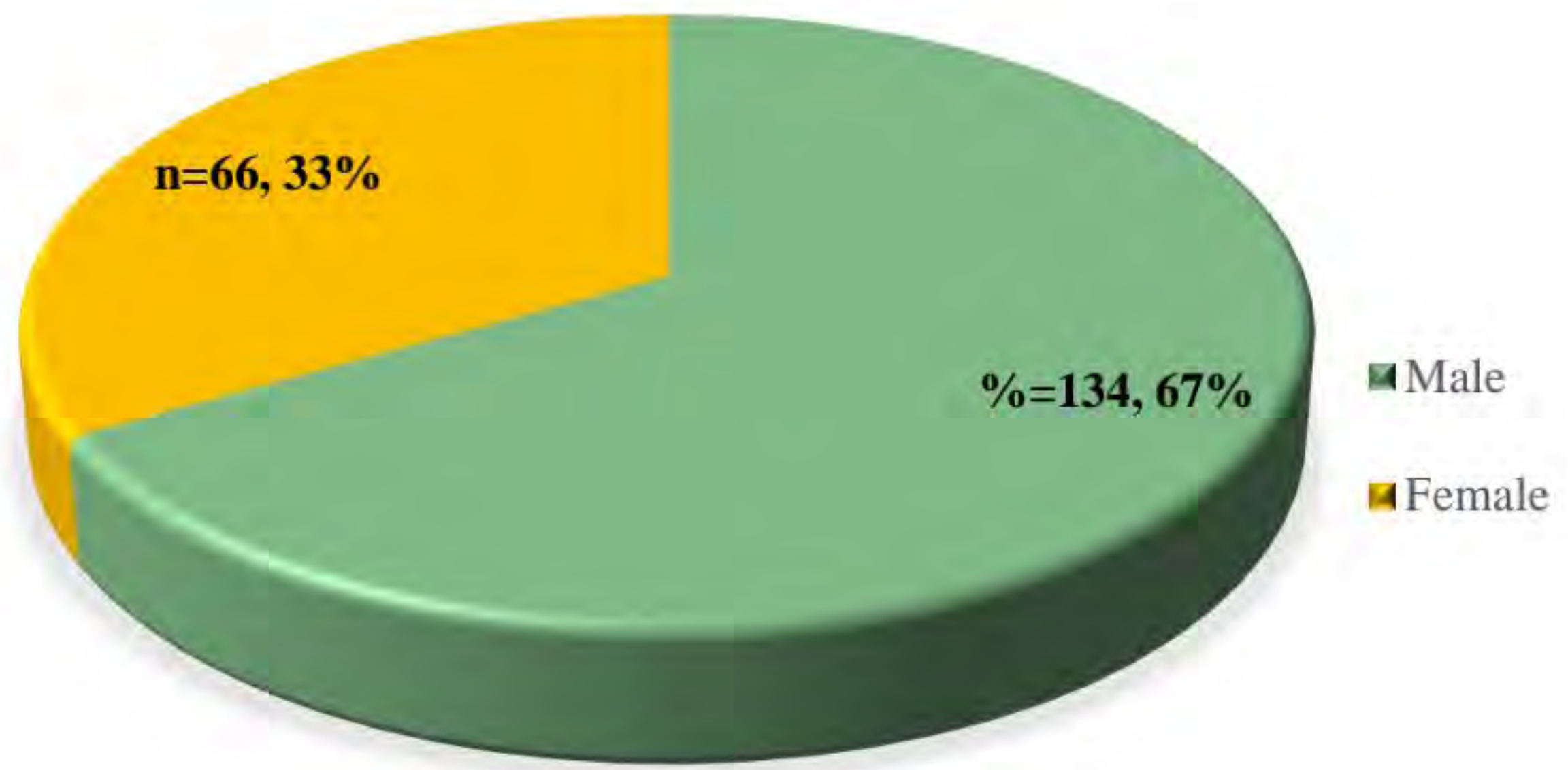


Figure 7: Gender of Respondents

Among 201 respondents, more than half of the doctors were male (n=134, 67%) as shown in figure 7 while the female respondents were (n=66,33%).

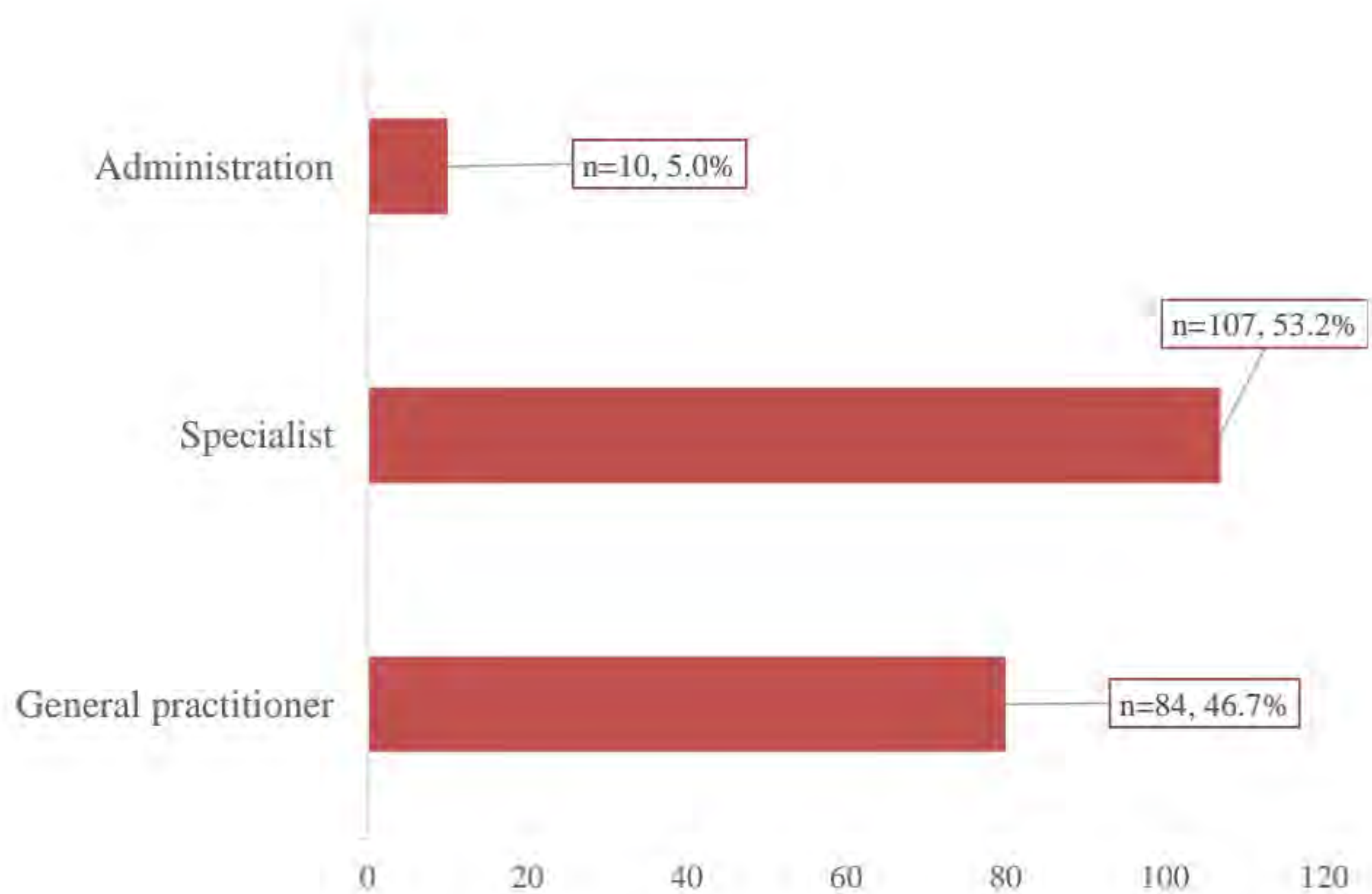


Figure 8: Designation of Respondents

Among 201 respondents, majority of the doctors were specialists (n=107, 53.2%) while general practitioners were (n=84, 46%) and the administration managers who participated in the study were (n=10, 5%).

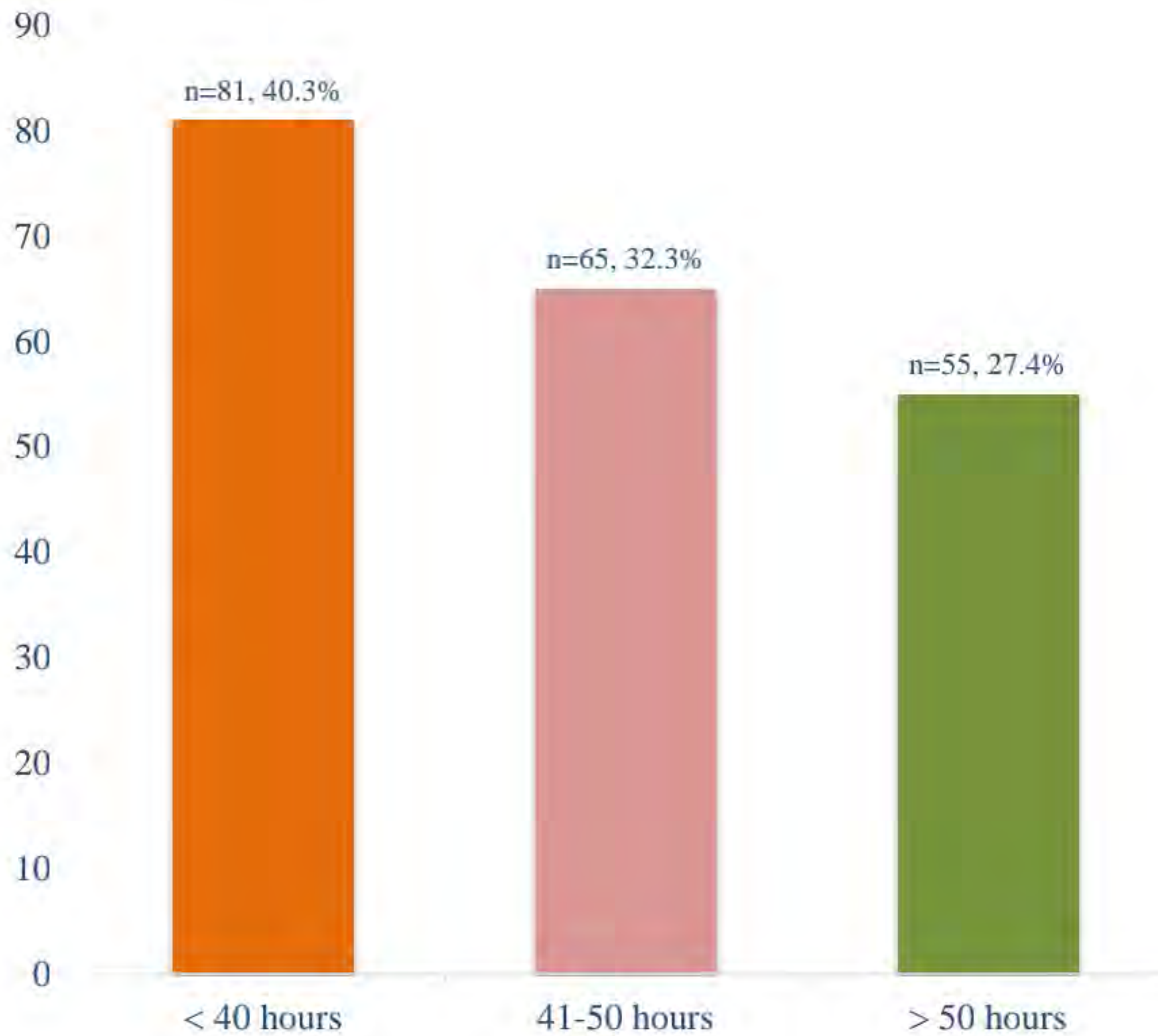


Figure 9: Working hours per week of Respondents

Results show that majority of the respondents work for less than 40 hours in a week (n=81, 40%) while respondents working 41-50 hours in a week were (n=65, 32%) and those who work more than 50 hours a week were (n=55, 27%).

4.2. Descriptive Result for Burnout among Doctors:

In current study, burnout was assessed among doctors using Maslach burnout inventory. Total score was computed for burnout and was further categorized into low (42-662), moderate (63-78) and high level (>78).

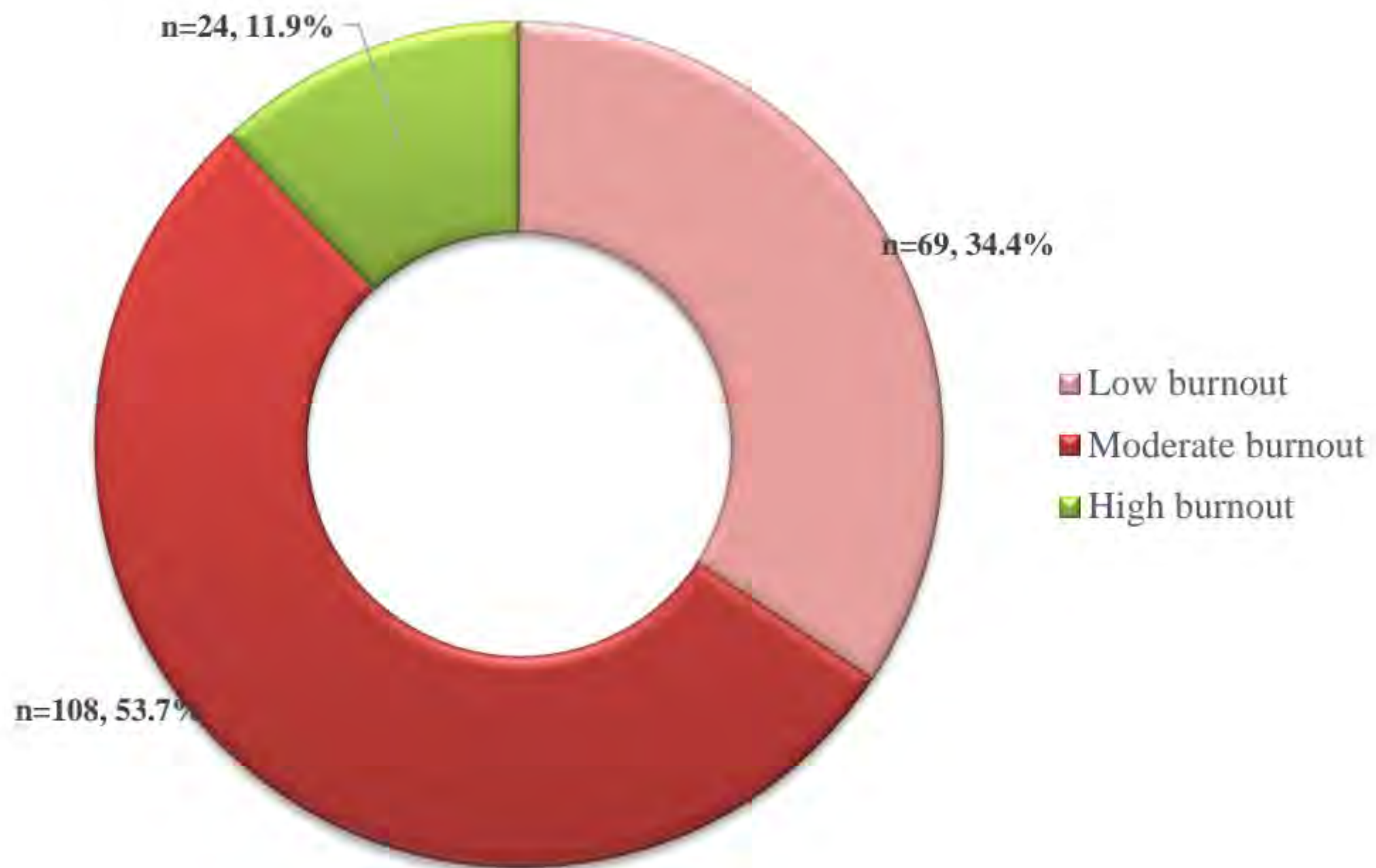


Figure 10: Burnout among doctors

It was found that high burnout was reported by only 12% (n=24) doctors while majority of the respondents reported moderate levels of burnout (n=108, 54%) as shown in figure 10.

4.2.1. Dimensions of Burnout:

Burnout is further categorized into three domains; emotional exhaustion, personal accomplishment and depersonalization. Each domain is further categorized into low, moderate and high levels.

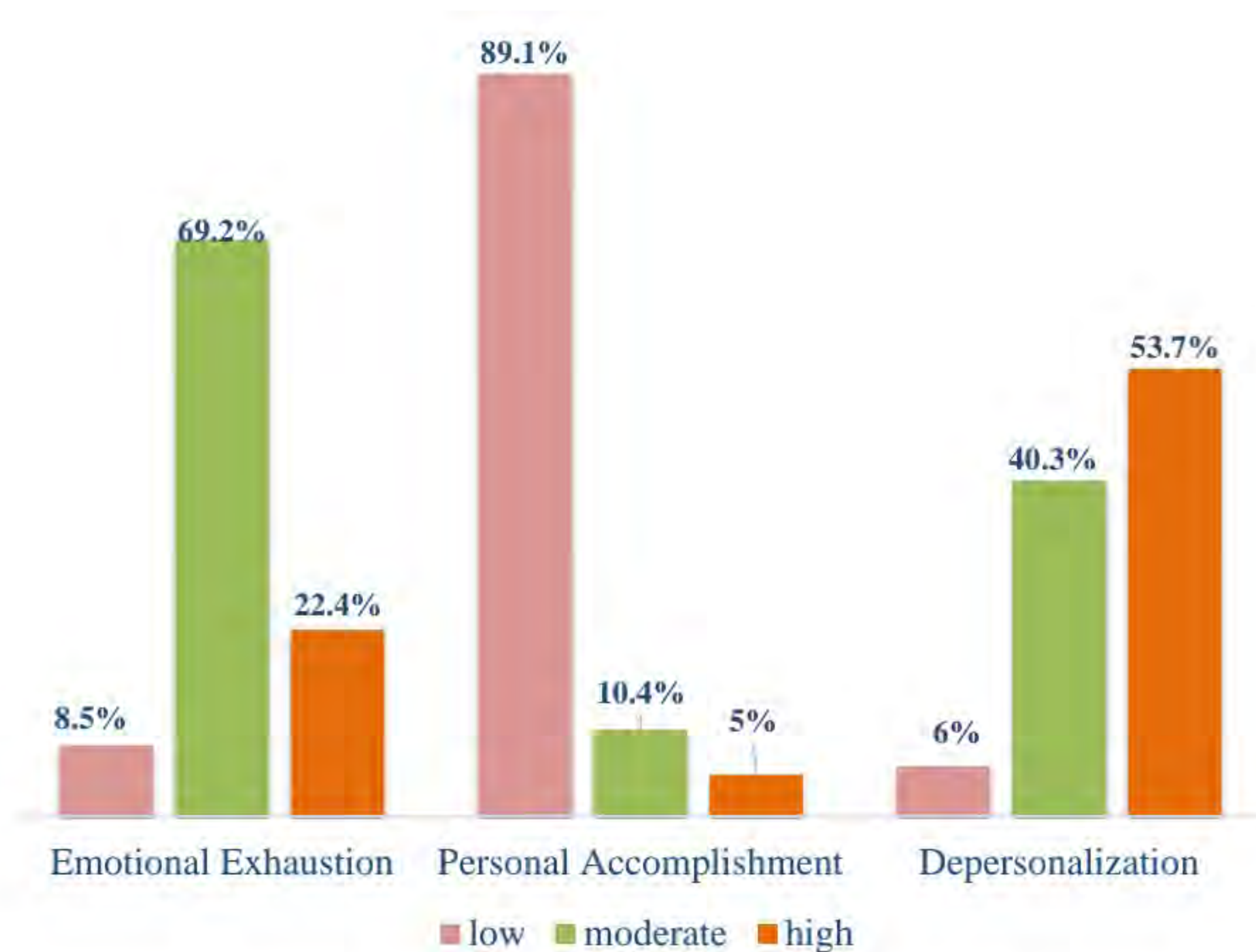


Figure 11: Dimension of burnout level

It was observed that majority of the respondents reported moderate levels of emotional exhaustion (n= 139, 69%), low levels of personal accomplishment (n= 179, 89%) while high levels of depersonalization were reported (n= 108, 54%). Details are shown in figure 11.

4.3. Descriptive Result for Job Satisfaction:

Job satisfaction among doctors was determined using Minnesota satisfaction questionnaire. Job satisfaction was further divided into three categories; low level (34-50), moderate (51-66) and high levels (>66). Results are shown in figure 12.

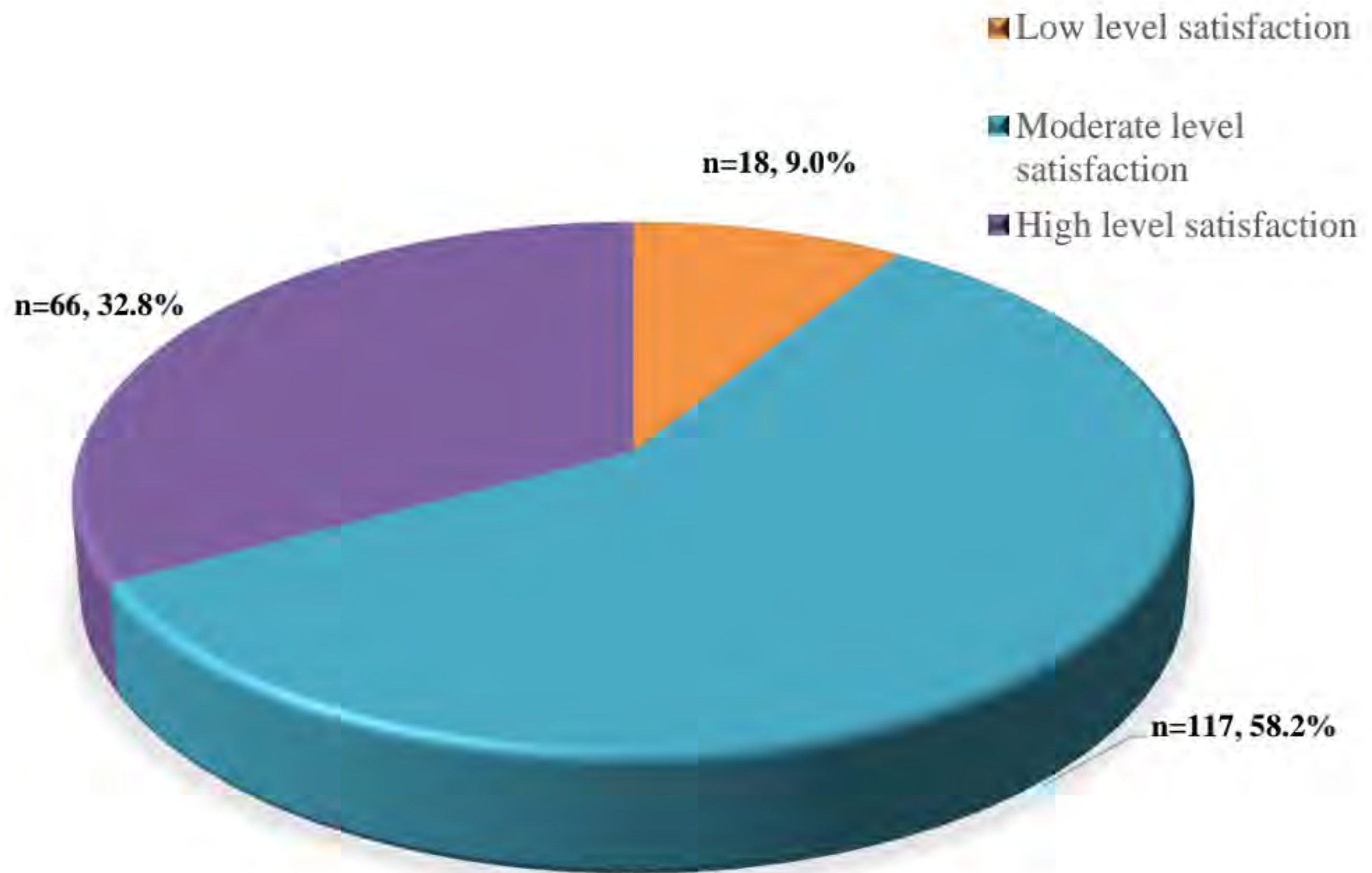


Figure 12: Job Satisfaction among Doctors

It can be observed that majority of the respondents reported moderate levels of job satisfaction (n= 117, 58%) while only 9% of respondents reported low levels of job satisfaction (n=18).

4.4. Association of Burnout with Socio-demographic Characteristics of Doctors:

Out of 201 respondents, results of the Chi square test revealed that females reported low burnout levels (n=28, 41.8%) as compare to male counterparts. Respondents of younger age group (20-29 years) reported relatively low burnout levels (n=31, 44.3%) as compare to older age groups. In qualification, graduate respondents showed low burnout levels (n=42, 44.7%) as compared to post-graduate respondents. Likewise, respondents having less than 1 years of service duration reported low levels of burnout (n=20, 51.3%) as compared to respondents with more job experience; high levels of burnout were mainly reported by respondents having job duration of 6-10 years (n=10, 34.5%). These results were also statistically significant (p-value<0.05).

A summary of these results is given in table 3.

Table 3: Association of Burnout with Socio-demographic Characteristics

S. No.	Variables	Low level burnout	Moderate level burnout	High level burnout	Chi-square (df)	P-value
		n (%)	n (%)	n (%)		
1.	Gender				6.318(2)	0.042
	Male	41(30.6)	72(53.7)	21(15.7)		
	Female	28(41.8)	36(53.7)	3(4.5)		
2.	Age group				12.795(6)	0.046
	20-29	31(44.3)	37(52.9)	2(2.9)		
	30-39	23(28.0)	46(56.1)	13(15.9)		
	40-49	13(36.1)	17(47.2)	6(16.7)		
	50+	2(15.4)	8(61.5)	3(23.1)		

3.	Marital status					
	Single	27(38.0)	40(56.3)	4(5.6)	6.891(4)	0.142
	Married	42(32.8)	67(52.3)	19(14.8)		
Divorced/widow	0(0)	1(50.0)	1(50.0)			
4.	Working status of spouse					
	Working	18(36.0)	21(42.0)	11(22.0)	16.512(4)	0.002
	Not-working	24(28.9)	46(55.4)	13(15.7)		
Not applicable	27(39.7)	41(60.3)	0(0.0)			
5.	Qualification					
	Graduation	42(44.7)	48(51.1)	4(4.3)	14.481(2)	0.001
Post-graduation	27(25.2)	60(56.1)	20(18.7)			
6.	Working hours per week					
	<40 hours	31(38.3)	40(49.4)	10(12.3)	2.156(4)	0.707
	41-50 hours	21(32.3)	38(58.5)	6(9.2)		
>50 hours	16(29.6)	30(55.6)	8(14.8)			
7.	Designation					
	General practitioner	35(43.8)	40(50.0)	5(6.3)	10.033(4)	0.040
	Specialist	31(27.9)	61(55.0)	19(17.1)		
Administration	3(30.0)	7(70.0)	0(0.0)			
8.	Pre-existing disease					
	Hypertension	1(20.0)	3(60.0)	1(20.0)	10.979(6)	0.089
	Diabetes	1(16.7)	2(33.3)	3(50.0)		
	Others	0(0.0)	2(100.0)	0(0.0)		
None	67(35.6)	101(53.7)	20(10.6)			

9.	Duration of service					
	<1year	20(51.3)	19(48.7)	0(0.0)	24.590(6)	0.0001
	1-5years	22(28.2)	46(59.0)	10(12.8)		
	6-10years	7(24.1)	12(41.4)	10(34.5)		
	>10years	20(36.4)	31(56.4)	4(7.3)		
10.	Patients examined per month					
	<500	12(35.3)	20(58.8)	2(5.9)	3.770(6)	0.708
	501-1000	34(37.4)	47(51.6)	10(11.0)		
	1000-1500	13(26.5)	28(57.1)	8(16.3)		
	>1500	10(37.0)	13(48.1)	4(14.8)		
11.	Monthly income					
	<1 lac	7(38.9)	11(61.1)	0(0.0)	9.029(6)	0.172
	1-3 lac	49(39.5)	61(49.2)	14(11.3)		
	> 3lac	13(22.4)	36(60.4)	10(17.2)		

4.5. Association of Job Satisfaction with Socio-demographic Characteristics of Doctors:

Association of job satisfaction with socio-demographic characteristics was determined using Pearson Chi Square Test of Independence after confirming the assumptions of the test. All p-values below 0.05 were considered statistically significant. Results of the Chi square test revealed that respondents above age 50 reported high levels of job satisfaction level (n= 6, 46.2%) as compare to other age groups. Furthermore, general practitioner showed high job satisfaction level (n=29, 36.3%) as compared to specialist and persons working in administration departments. Respondents with less than 1 year of service duration reported high satisfaction level (n=20, 51.3%) while respondents with more service duration reported comparatively low job satisfaction levels. These results were also statistically significant (p-value<0.05). Detail of association of job satisfaction with socio-demographic variables is given in table 4.

Table 4: Association of Job Satisfaction with Socio-demographic Characteristics

S. No.	Variables	Low level satisfaction	Moderate level satisfaction	High level satisfaction	Chi-square (df)	P-value
		n (%)	n (%)	n (%)		
1.	Gender				4.108(2)	0.128
	Male	15(11.2)	80(59.7)	39(29.1)		
	Female	3(4.5)	37(55.2)	27(40.3)		

2.	Age group					
	20-29	13(18.6)	32(45.7)	25(35.7)		
	30-39	3(3.7)	55(67.1)	24(29.3)		
	40-49	2(5.6)	23(63.9)	11(30.6)	15.906(6)	0.014
	50+	0(0)	7(53.8)	6(46.2)		
3.	Marital status					
	Single	7(9.9)	45(63.4)	19(26.8)		
	Married	11(8.6)	71(55.5)	46(35.9)	2.130(4)	0.712
	Divorced/widow	0(0)	1(50.0)	1(50.0)		
4.	Working status of spouse					
	Working	3(6.0)	34(68.0)	13(26.0)		
	Not-working	10(12.0)	39(47.0)	34(41.0)	7.559(4)	0.109
	Not applicable	5(7.4)	44(64.7)	19(27.9)		
5.	Qualification					
	Graduation	11(11.7)	49(52.1)	34(36.2)	3.208(2)	0.201
	Post-graduation	7(6.5)	68(63.6)	32(29.9)		
6.	Working hours per week					
	<40 hours	10(12.3)	44(54.3)	27(33.3)		
	41-50 hours	5(7.7)	39(60.0)	21(32.3)	2.329(4)	0.676
	>50 hours	3(5.6)	34(63.0)	17(31.5)		
7.	Designation					
	General practitioners	9(11.3)	42(52.5)	29(36.3)		
	Specialists	6(5.4)	68(61.3)	37(33.3)	11.418(4)	0.022
	Administration	3(30.0)	7(70.0)	0(0.0)		

8.	Pre-existing disease					
	Hypertension	0(0.0)	5(100.0)	0(0.0)	9.980(6)	0.125
	Diabetes	0(0.0)	5(83.3)	1(16.7)		
	Others	1(50.0)	1(50.0)	0(0.0)		
	None	17(9.0)	106(56.4)	65(34.6)		
9.	Duration of service					
	<1year	0(0.0)	19(48.7)	20(51.3)		
	1-5years	14(17.9)	42(53.8)	22(28.2)	19.624(6)	0.003
	6-10years	2(6.9)	20(69.0)	7(24.1)		
	>10years	2(3.6)	36(65.5)	17(30.9)		
10.	Patients examined per month					
	<500	2(5.9)	21(61.8)	11(32.4)	0.708(6)	0.994
	501-1000	8(8.8)	53(58.2)	30(33.0)		
	1000-1500	5(10.2)	28(57.1)	16(32.7)		
	>1500	3(11.1)	15(55.6)	9(33.3)		
11.	Monthly income					
	<1 lac	2(11.1)	9(50.0)	7(38.9)		
	1-3 lac	12(9.7)	70(56.5)	42(33.9)	2.204(6)	0.900
	> 3lac	5(6.9)	37(63.8)	17(29.3)		

Association of burnout and job satisfaction was determined by applying Chi Square Test of Independence, assuming burnout as independent variable and job satisfaction as dependent variable. Results of Chi Square test revealed that there was no significant association between burn out and job satisfaction (p-value = 0.499).

CHAPTER V: DISCUSSION

In the present study burnout and job satisfaction among doctors working in tertiary care hospitals of Gilgit-Baltistan were determined. For this purpose, two validated tools MBI and MSQ were used. It was found that majority of the respondents reported moderate levels of burnout (n= 118, 53.7%) and moderate levels of job satisfaction (n= 117, 58.2%). A study previously conducted in Pakistan reported moderate to high levels of burnout among doctors (Shaikh et al., 2019) while study conducted in Nigeria reported low burnout among doctors and nurses (Ozumba & Alabere, 2019). Likewise, study conducted in China found that doctors are highly dissatisfied with their job (Liu et al., 2019). Similarly, another study conducted in Pakistan also found that doctors from different cadres reported job dissatisfaction (Ali et al., 2019). This could be attributed to the challenging work of doctors and their strenuous working hours which ultimately lead to burnout and job dissatisfaction among them.

The present study revealed that gender of respondents has a significant association with burnout (p-value=0.042). It was found that nearly 15% of male respondents reported high levels of burnout as compared to only 4% females who reported high burnout. These findings are somehow related to the previous studies. A study conducted in US in 2020, showed that there was a significant association between burnout level and gender (p-value=0.003) (Helen M. Johnson., 2020). While, a study conducted in India in 2021, noticed that female doctors were experiencing burnout including working hours, days of working, monthly income and job experience instead of male doctors (p-value=0.001). The possible explanation of the current results could be that there is greater financial burden on

males in Pakistani society which compels them to adopt different jobs at the same time, this ultimately leads to higher levels of burnout.

Current study also found that working status of spouse has a significant association with the levels of burnout among doctors (p value= 0.002). It was observed that doctors, with working spouse, reported high levels of burnout (22%) as compared to those whose spouse was not doing any job (22%). However, little literature was available regarding this finding. The possible explanation could be difference in home environment and living conditions. It was found that educational level of doctors was also significantly associated with burnout level (p -value=0.001). Post graduation doctors reported high burnout (56.1%) as compared to doctors who have done only graduation. Likewise, current study showed a significant association between burnout and designation of doctors (p -value=0.040). Specialist doctors have reported high burnout levels (61%) as compared to general practitioners. A study that was conducted in Lahore, Pakistan, showed that burnout levels varied significantly between house officers and post graduate trainees. The study reported low levels of burnout among post graduate trainees (Waqas et al, 2018). The possible reason for this variation might be that senior doctors have more responsibilities as compared to young doctors, which leads to high levels of burnout.

In the current study, a significant association between duration of service and burnout among doctors was found significant (p -value=0.0001). Doctors having 6-10 years job experience reported high levels of burnout as compared to those having less job experience. In the previous study that was conducted in Ireland in 2019, showed that the rate of burnout varied significantly between years (p =0.032), with 35% in the high-burnout category in

clinical years compared with 26% in preclinical years (Orla et al., 2019). Similarly, another study also found that with increasing job experience, burnout levels increase among healthcare providers (Stanetić & Tesanović, 2013). The possible explanation for this finding could be that doctors with less job experience are less prone to develop fatigue due to age factor while those having more experience might be prone to fatigue, sleep disturbance due to long working hours.

A significant association was also observed between age of respondents and their burnout levels (p value= 0.046) with respondents greater than 50 years of age reporting high levels of burnout (23%) as compared to respondents of younger age. Previous literature also support this finding (Gómez Urquiza et al., 2016; Stanetić & Tesanović, 2013). This could be attributed to increased exposure to work related stressors, family relations, and sleep disturbances.

In current study, various factors were also found associated with job satisfaction among doctors. It was observed that there was a significant association between job satisfaction and age of the respondents (p value= 0.014). Results revealed that doctors with age more than 50 years reported high levels of job satisfaction (46%) as compared to their younger counterparts. This can be supported with the previous literature. A study conducted in Pakistan also found the similar results (Atif, Khan & Maqbool, 2015). Another study that was conducted in Hungary in 2021, results of the study showed that the age was positively associated with higher levels of job satisfaction (Hamzeh et al., 2021). This could be explained by the fact that doctors in the young and middle age groups are struggling with their career, job uncertainty, salary, workload and other insecurities often lead to

dissatisfaction with their job.

The present study also showed a significant association between job satisfaction of doctors and their designation (p -value=0.022). It was found that general physicians reported high levels of job satisfaction as compared to specialists and those working in administration cadre. Previous literature provides contradicting results as a study conducted in Iraq found that specialists reported high job satisfaction (Saad et al., 2018) This could be explained by the difference in working conditions, no. of patients and working hours.

A significant association was also observed between job satisfaction and duration of service of the doctors (p -value=0.003). It was found that doctors with less working experience (>1 years) reported more job satisfaction as compared to those having more job experience. This finding is also not supported by the previous literature as a study conducted in Ethiopia in 2021, showed that doctors with work experience more than 10 years reported high job satisfaction levels (Zelalem et al., 2021). This deviation could be explained by the fact that younger people have less family responsibilities. Most of the young doctors are excited to pursue a bright career and they are still dreaming for more opportunities. They enjoy the recent transition from a classroom environment to a practical setting where they improve their skills, enhance social connections and learn to manage money.

5.1. Strengths:

1. As little literature is available about the doctors working in Gilgit Baltistan, so the present findings can be a valuable addition to the existing literature.
2. The current study utilized two validated and internationally accepted tools for measuring burnout and job satisfaction among doctors.
3. The current study included doctors from all cadre i.e. general practitioners, specialists and health managers.

5.2. Limitations:

1. There was time and resource constraint.
2. Majority of the doctors were included from Gilgit city due to convenience of access which resulted in a less diversified sample.

5.3. Conclusion:

This study concluded that majority of the doctors working in tertiary care hospitals of Gilgit Baltistan, experience moderate levels of burnout and reported moderate levels of satisfaction with their job. Various socio-demographic factors were found associated with the levels of burnout and job satisfaction. Among them, male gender, more experience, age greater than 50 years and postgraduate trainees reported high levels of burnout. Whereas, job satisfaction was higher among doctors with age more than 50 years and general practitioners. Certain measures are needed to improve job satisfaction among doctors and reduce their burnout level which will directly improve their job performance and quality of service delivery.

5.4. Recommendations:

1. Job satisfaction can be improved by providing job security to the young doctors, this will help to reduce their burnout.
2. Routine psychological assessments should be provided to the doctors to assess their psychological well-being and devise strategies for improvement.
3. Flexible working hours should be provided to the doctors to enhance their job satisfaction and reduce burnout level.
4. Further studies are needed to determine the effect of working status of spouse on the burnout level of doctors to develop a generalization.
5. Awareness sessions are proposed to manage their stress and reduce their burnout effectively.

REFERENCES

- Alan, H., Polat, S., & Tiryaki Sen, H. (2022). The role of psychological capital in the relationship between nurses' job satisfaction and turnover intention. *Perspectives in Psychiatric Care*.
- Anja Schablon, J. F. (2022). Risk of Burnout among Emergency Department Staff as a Result of Violence and Aggression from Patients and Their Relatives. *Environmental Research and Public Health*, 19(9).
- Antoniadou, M. (2022). Estimation of Factors Affecting Burnout in Greek Dentists before and during the COVID-19 Pandemic. *Dentistry Journal*, 10(6). <https://doi.org/10.3390/dj10060108>
- Anwar, S., Ali Khan, J., Hassan, A., & Batool, A. (2019). Impact of Clinical Workload on the Lifestyle of Dental Professionals in Karachi. *Pakistan Oral & Dental Journal*, 39(3), 285–288.
- Avramova, N. (2020). *Burnout and Related Demographic Factors- A Pilot Study among Dentists in Bulgaria (Part I)*. 19(12), 50–55. <https://doi.org/10.9790/0853-1912025055>
- Bashir Khan, Z., Pervaiz, A., Majid, A., & Toheed, A. (2020). Assessment of psychosocial work environment of doctors. *Pakistan Journal of Surgery and Medicine*, 1(2), 106–112. <https://doi.org/10.37978/pjism.v1i2.177>
- Bhumika Rajendrakumar Patel, B. G. (2021). Evaluation of perceived social stigma and burnout, among health-care workers working in covid-19

- designated hospital of India: A cross-sectional study. *Asian Journal of Social Health and Behavior*, 4(4).
- College, L. M., Kamran, R., Bari, A., Zaheer, N., Shahbaz, M., Aslam, K., & Yasser, F. (2020). Prevalence of Burnout among Dentists in CMH Lahore Medical College & Institute of Dentistry, Pakistan *Advances in BioResearch*, 2–8. <https://doi.org/10.15515/abr.0976-4585.11.6.164169>.
- Dana Lo, F. W. (2018). A systematic review of burnout among doctors in China: a cultural perspective. *Asia Pacific Family Medicine*, 17(3).
- Goetz, K., Schuldei, R., & Steinhäuser, J. (2019). Working conditions, job satisfaction and challenging encounters in dentistry: a cross-sectional study. *International Dental Journal*, 69(1), 44–49. <https://doi.org/10.1111/idj.12414>
- Gómez-Polo, C., Casado, A. M. M., & Montero, J. (2022). Burnout syndrome in dentists: Work-related factors. *Journal of Dentistry*, 121(October 2021). <https://doi.org/10.1016/j.jdent.2022.104143>
- Hamzeh Mohammad Alrawashdeh, A. B.-T. (2021). Occupational burnout and job satisfaction among physicians in times of COVID-19 crisis: a convergent parallel mixed-method study. *BMC Public Health*, 21(1).
- Helen M. Johnson, W. I. (2020). Associations Between Career Satisfaction, Personal Life Factors, and Work-Life Integration Practices Among US Surgeons by Gender. *JAMS Surgery*.

Khan, N. (2020, May 27) DHQ Hospital Gilgit. Retrieved from <https://www.google.com/search?q=dhq+hospital+gilgit&sxsrf>.

(Source).

Kobza, J., & Syrkiewicz-Świtała, M. (2018). Job satisfaction and its related factors among dentists: A cross-sectional study. *Work*, 60(3), 357–363. <https://doi.org/10.3233/WOR-182749>

Lee, C. Y., Wu, J. H., & Du, J. K. (2019). Work stress and occupational burnout among dental staff in a medical center. *Journal of Dental Sciences*, 14(3), 295–301. <https://doi.org/10.1016/j.jds.2019.01.006>

Leiter, M. P., & Harvie, P. L. (1996). Burnout among mental health workers: A review and a research agenda. *International journal of social psychiatry*, 42(2), 90-101.

Molina-Hernández, J., Fernández-Estevan, L., Montero, J., & González-García, L. (2021). Work environment, job satisfaction and burnout among Spanish dentists: a cross-sectional study. *BMC Oral Health*, 21(1), 1–10. <https://doi.org/10.1186/s12903-021-01480-9>

Muhammad, S., & Nawaz, H. (2014). *Socio-demographic and occupational aspects in relation with physicians' burnout and career satisfaction in Pakistan*. *Md*, 1–86.

Orla Fitzpatrick, R. B. (2019). Prevalence and relationship between burnout and depression in our future doctors: a cross-sectional study in a cohort of preclinical and clinical medical students in Ireland. *BMJ Journal*, 9(4).

- Oscar Dousin, N. C. (2019). Work-Life Balance, Employee Job Performance and Satisfaction Among Doctors and Nurses in Malaysia. *International Journal of Human Resource Studies*, 9(4).
- Reddy, M., HL, S., & Mishra, M. (2017). Assessment of occupational burnout among private dental practitioners in Bengaluru city -a cross sectional study. *International Journal of Dental Research*, 5(1), 55. <https://doi.org/10.14419/ijdr.v5i1.7421>
- Saad Ahmed Ali Jadoo, P. T. (2018). Impact of conflict related and workplace related violence on job satisfaction among physicians from Iraq - a descriptive cross-sectional multicentre study. *Journal of Ideas in Health*, 1(1).
- Patient Relationship and Work-Family Conflict in China: A Structural Equation Modeling. *The Journal of Health Care*, 55, 1-11. Shumin Deng, N. Y. (2018). Doctors' Job Satisfaction and Its Relationships With Doctor-
- Siddiqui, M. K., Taqi, M., Naqvi, S., Raza, S. A., Bawany, H., & Hasan, Z. (2022). Levels of perceived stress according to professional standings among dental surgeons of Karachi: a descriptive study. *BMC Oral Health*, 22(1), 1–8. <https://doi.org/10.1186/s12903-022-02272-5>.
- Sufia, S., & Latif, W. (2016). Burnout among Undergraduate Dental Students at a Public Academic Institution in Lahore, Pakistan. *Jpda*, 25(04), 131–136.
- VectorStock.com/32244406. Administrative map of Gilgit Baltistan. Retrieved from <http://www.google.com/search?q=map+of+gilgit+baltistan&sxsrf>. (Source)

- Waqas Ahmed, H. A. (2018). Association of burnout with doctor–patient relationship and common stressors among postgraduate trainees and house officers in Lahore—a cross-sectional study. *PeerJ*.
- Zelalem Tenaw, . M. (2021). Health Professionals Job Satisfaction and Associated Factors in Ethiopia: A Systematic Review and Meta-analysis. *Health Services Research and Managerial Epidemiology*, 8, 1-12.
- Madigan, D. J., & Kim, L. E. (2021). Towards an understanding of teacher attrition: A meta-analysis of burnout, job satisfaction, and teachers’ intentions to quit. *Teaching and teacher education*, 105, 103425.
- Friganović, A., Selič, P., & Ilić, B. (2019). Stress and burnout syndrome and their associations with coping and job satisfaction in critical care nurses: a literature review. *Psychiatria Danubina*, 31(suppl. 1), 21-31.
- Alrawashdeh, H. M., Al-Tammemi, A. A. B., Alzawahreh, M. K., Al-Tamimi, A., Elkholy, M., Al Sarireh, F., ... & Ghoul, I. (2021). Occupational burnout and job satisfaction among physicians in times of COVID-19 crisis: a convergent parallel mixed-method study. *BMC public health*, 21, 1-18.
- Alzailai, N., Barriball, L., & Xyrichis, A. (2021). Burnout and job satisfaction among critical care nurses in Saudi Arabia and their contributing factors: A scoping

review. *Nursing open*, 8(5), 2331-2

Fargen, K. M., Arthur, A. S., Leslie-Mazwi, T., Garner, R. M., Aschenbrenner, C. A., Wolfe, S. Q., ... & Hirsch, J. A. (2019). A survey of burnout and professional satisfaction among United States neurointerventionalists. *Journal of neurointerventional surgery*, 11(11), 1100-1104.

Kader, N., Elhusein, B., Elhassan, N. M., Alabdulla, M., Hammoudeh, S., & Hussein, N. R. (2021). Burnout and job satisfaction among psychiatrists in the mental health service, Hamad medical corporation, Qatar. *Asian Journal of Psychiatry*, 58, 102619.

Osman, D., & Abdlrheem, S. (2019). Burnout and job satisfaction among healthcare providers in Aswan University hospital, upper Egypt. *Journal of High Institute of Public Health*, 49(1), 64-72.

Rocha, L. J., Cortes, M. D. C. J. W., Dias, E. C., de Meira Fernandes, F., & Gontijo, E. D. (2019). Burnout and job satisfaction among emergency and intensive care providers in a public hospital. *Revista Brasileira de Medicina do Trabalho*, 17(3), 300.

APPENDIX-A QUESTIONNAIRE

SOCIODEMOGRAPHIC PROFILE						
1	Gender: 1. (Male) 2.(Female)	2	Age Group: 1. (20-29) 2. (30-39) 3. (40-49) 4.(50 +)			
3	Marital status: 1.(single) 2.(married) 3.(divorced /widow)	4	Working status of spouse: 1(working) 2. (not working) 3.(N/A)			
5	Qualification: 1.Graduation 2.Post-graduation	6	Working hours per week: 1. (<40hrs) 2. (41-50hrs) 3. (>50hrs)			
7	Designation: 1. (General practitioner) 2. (specialist) 3. (administration)	8	Pre-existing disease: 1. (hypertension) 2. (diabetes) 3. (Renal disease) 4. (others) 5. (none)			
9	Duration of service: 1. (<1 year) 2. (1-5 years) 3. (6-10 years) 4. (>10 years)	10	Patients examined per month: 1. (<500) 2. (501-1000) 3. (1001-1500) 4. (>1500)			
11	Monthly income: 1. (< 1 lac) 2. (1-3 lac) 3. (>3 lac)					
MINNESOTA SATISFACTION QUESTIONNAIRE(SHORT FORM-MSQ)						
Ask yourself: How satisfied am I with this aspect of my job?						
1=Not satisfied 2= Somewhat satisfied 3= Satisfied 4= Very satisfied 5= Extremely satisfied						
S.no	Question/item	1	2	3	4	5
12	Being able to keep busy all the time.					
13	The chance to work alone on the job.					
14	The chance to do different things from time to time.					
15	The chance to be "somebody" in the community					
16	The way my boss handles his/her workers.					
17	The competence of my supervisor in making decisions.					
18	Being able to do things that don't go against my conscience					
19	The way my job provides for steady employment.					
20	The chance to do things for other people					
21	The chance to tell people what to do.					
22	The chance to do something that makes use of my abilities.					
23	The way company policies are put into practice.					
24	My pay and the amount of work I do.					
25	The chances for advancement on this job					
26	The freedom to use my own judgment.					
27	The chance to try my own methods of doing the job.					
28	The working conditions.					
29	The way my co-workers get along with each other.					
30	The praise I get for doing a good job.					
31	The feeling of accomplishment I get from the job.					

MASLACH BURNOUT INVENTORY (MBI)

For each statement please 'tick' the best options below: Never=1, Rarely=2, Sometimes=3, Frequently=4, Always=5

Questions						
1. EMOTIONAL EXHAUSTION		1	2	3	4	5
32	I feel emotionally drained from my work.					
33	I feel used up at the end of the work day					
34	I feel fatigued when I get up in the morning and have to face another day on the job					
35	Working with people all the day is really a strain for me					
36	I feel burned out from my work					
37	I feel frustrated by my job					
38	I feel I am working too hard on my job					
39	Working with people directly puts too much stress on me					
40	I feel like I am at the end of my rope					
2. PERSONAL ACCOMPLISHMENT		1	2	3	4	5
41	I can easily understand how my recipients feel about things					
42	I feel very effectively with the problems of my recipients					
43	I feel I am positively influencing other people's lives through my work					
44	I feel very energetic					
45	I can easily create a related atmosphere with my recipients					
46	I feel exhilarated after working closely with my recipients					
47	I have accomplished many worthwhile things in this job					
48	In my work, I deal with emotional problems very calmly					
3. DEPERSONALIZATION		1	2	3	4	5
49	I feel I treat some recipients as if they were impersonal objects					
50	I have become more callous toward people since I took this job					
51	I worry that this job is hardening me emotionally					
52	I don't really care what happens to some recipients					
53	I feel recipients blame me for some of their problems					

APPENDIX-B CONSENT FORM

I am Hidayat Hussain, student of MSPH- Final Semester, Alshifa School of Public Health, Alshifa Eye Hospital, Rawalpindi. I am doing research on “Burnout and Job Satisfaction Among Doctors in Tertiary Care Hospitals of Gilgit-Baltistan”.

PURPOSE OF THE RESEARCH

The purpose of this study is to find out burnout and job satisfaction among doctors in tertiary care hospitals of Gilgit-Baltistan.

PARTICIPATION

I do not anticipate that taking this study will contain any risk or inconvenience to you. Your participation is strictly voluntary and you may withdraw your participation at any time without penalty. I request you to answer the questions as honestly as possible. It will take no longer than 15 minutes to complete a questionnaire. All information collected will be used only for research purpose and will be kept highly confidential. Your identity and your responses will not be identifiable; all data will be stored anonymously. As this is solely a student project no incentive will be provided. Once study is completed, I would be happy to share the results with you if you desire.

Thank you for agreeing to participate in this study. Your feedback is important.

Consent

I have read and understand the information sheet and agree to take part in the study.

Signature _____ **Date** _____

APPENDIX-C IRB LETTER



**AL-SHIFA SCHOOL OF PUBLIC HEALTH
PAKISTAN INSTITUTE OF OPHTHALMOLOGY
AL-SHIFA TRUST, RAWALPINDI**

MSPH-IRB/14-17
27th Sep, 2022

TO WHOM IT MAY CONCERN

This is to certify that **Hidavat Hussain** S/O **Ghulam Nabi** is a student of Master of Science in Public Health (MSPH) final semester at Al-Shifa School of Public Health, PIO, Al-Shifa Trust Rawalpindi. He/she has to conduct a research project as part of curriculum & compulsory requirement for the award of degree by the Quaid-i-Azam University, Islamabad. His/her research topic which has already been approved by the Institutional Review Board (IRB) is “**Burn out and job satisfaction among doctors in Tertiary care hospitals of Gilgit Baltistan**”.

Please provide his/her necessary help and support in completion of the research project. Thank you.

Sincerely,

Dr. Ayesha Babar Kawish
Head
Al-Shifa School of Public Health, PIO
Al-Shifa Trust, Rawalpindi

APPENDIX-D GANTT CHART

Activities	September 2022	October 2022	November 2022	December 2022	January 2022	February 2023	March 2023
Literature search							
Synopsis writing and IRB approval							
Pilot testing							
Data collection and entry							
Data analysis							
Write-up							
Thesis submission							

Appendix-E Budget

Budget item	Transport	Stationery and internet	Printing	Publishing
Pilot testing	500 Rs/-	6000 Rs/-	4000 Rs/-	-
Data collection	12,000 Rs/-	8,000 Rs/-	-	-
Thesis write-up	1,000 Rs/-	9,000 Rs/-	6,000 Rs/-	25,000 Rs/-
Total expenditure	13,500 Rs/-	23,000 Rs/-	10,000 Rs/-	25,000 Rs/-
Grand total	71,500 Rs/-			