

SAINT PAUL’S HOSPITAL MILLENNIUM MEDICAL COLLEGE

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY



**BURNOUT, DEPRESSION AND JOB DISATISFACTION AMONG OBGYN
AND OTHER MAJOR DEPARTMENT RESIDENTS AT ST.PAUL’S
HOSPITAL MILLENNIUM MEDICAL COLLEGE: A CROSS SECTIONAL
COMPARATIVE STUDY, ADDIS ABABA, ETHIOPIA.**

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DECLARATION

I, the undersigned declare that this thesis is my original work in partial fulfillment of the requirement for the postgraduate study in OBGYN. I also declare that it has never been presented in this or any other university and that all resources and materials used in the thesis have been duly acknowledged.

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This thesis has been submitted for examination with my approval as an advisor.

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ABSTRACT

Background: OBGYN is one of the high burdened fields of studies in Ethiopia. Little is known regarding burnout, depression and job dissatisfaction in practicing residents over the nation.

Objective: This study was conducted with primary aim of comparing the magnitude of Burnout, Depression and Job dissatisfaction in OBGYN residents versus other major department residents at St. Paul's Hospital Millennium Medical College.

Methods: A comparative cross sectional study was conducted in SPHMMC from January 20, 2020 to February 10, 2020. Sample size was calculated for burnout based on Epi info- sample size calculation and a total of 164 residents (80 OBGYN and 84 other major department residents) which was allocated at each major department proportionately. Data was collected with 3 validated self-administered structured questionnaires. A multivariate analysis was done to assess the presence of association between variables using SPSS version 25.

Results: Burnout was seen in 52(65%) of OBGYN residents and in 45(53.6%) of other department residents. Majority of OBGYN 73(91.3%) and other department residents 75(89.3%) had Subthreshold depression. Average job satisfaction was seen in OBGYN 73(91.3%) and other department 76(90.5%) residents. OBGYN residents who work in private setups had 9.5 fold risk of having high Emotional exhaustion (AOR=9.5 (95%CI (1.104-81.801) and had 16 fold risk of having moderate Emotional exhaustion than those who do not (AOR=15.995(95% CI (1.575-162.465). Those other department residents who were unmarried had 6.8 fold more risk of having high emotional exhaustion (AOR=6.770(95%CI (1.675-27.360) than the married ones. And those with spouse as doctor had 8.7 fold more risk of having moderate emotional exhaustion (AOR=8.682(95%CI (1.425-52.919) than those without.

Conclusion: In this study > 50 % of all the residents met the criteria for burnout. Majority of the residents in all departments had Subthreshold depression and average job satisfaction. Working in private setups is risk for high Emotional exhaustion in OBYN residents. But being unmarried and having a doctor spouse was a risk for high Emotional exhaustion and moderate Emotional exhaustion in other department residents respectively.

Keywords: Burnout, Depression, Job dissatisfaction.

INTRODUCTION

Burnout is a syndrome of emotional exhaustion, depersonalization, and reduced sense of personal accomplishment occurring in individuals who work in human services [1].

Depression is a common mental disorder that presents with depressed mood, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy, and poor concentration [2].

Job dissatisfaction is a measure of workers' discontentedness with their job whether or not they like the job or individual aspects or facets of jobs such as nature of work or supervision. Residents have long weekly working hours, sleep deprivation, post-call clinical responsibilities and difficult working conditions. All these factors are known to be predisposing factors for burnout and its consequences such as depression and job dissatisfaction [3].

Rate of burnout and depression in a Multispecialty Study of Resident and Program Director Perspectives on Contributors to Burnout and Potential Interventions done by Emily G. Holmes was 59% and 20% in OBGYN, 79 % and 18% in Internal medicine, 53% and 10% in Pediatrics, 89% and 26% in General Surgery residents respectively [4]. In a similar study done by Martini, Burnout Comparison among Residents in Different Medical Specialties, 50% of residents met burnout criteria. 75% in OBGYN, 63% in Internal Medicine, 40% in General Surgery and the lowest being Family Medicine 27% [5].

In a survey of multispecialty residents conducted by Hutchinson-Colas, there was no statistical difference between OBGYN and General Surgery residents in job satisfaction. Job satisfaction General surgery and OBGYN demonstrating for both below average job satisfaction [6].

In a prospective trial on gynecology residents in United States done by Govardhan et al. found the prevalence of burnout in >50% of residents, 37.5% of the surveyed residents were categorized as depressed and 70% were dissatisfied in their jobs [7].

In a cross-sectional survey of burnout among gynecological residents in Lahore, Pakistan, of a 102 participants, 57(55.9%) were satisfied after choosing gynecology as career. It was found that emotional exhaustion and depersonalization were significantly higher among residents working in government institutions than private institutions. It is found the prevalence of burnout in 76.9% participants [8].

In African countries, burnout studies are scarce and most have only been developed in the last decade. Different studies done in South Africa, Nigeria, Malawi and Ghana in different health professionals have shown high rate of burnout [9, 11, 22, 23].

High rates of burnout among maternal health staff at a referral hospital in Malawi have been reported (Thorsen et al. 2011). In this study, nearly three quarters of workers (72%) reported emotional exhaustion, over one third (43%) reported depersonalization, while almost three quarters (74%) experienced reduced personal accomplishment [9].

In Ethiopia there is no even a single research published on burnout, depression and job satisfaction in any of the maternal health staffs. In St. Paul's Hospital Millennium Medical College, the largest Obstetric center over the nation where there is up to 900 deliveries per month, investigating the residents for burnout, depression and job satisfaction is critical.

METHODS

Study setting

Study was conducted at St. Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia. The college is one of the largest referral centers over the nation. It is under the Ethiopian Federal Ministry of Health management. OBGYN is potentially strong department currently achieved around 4000 monthly outpatient visits, 900 monthly deliveries and 370 monthly family planning clients with around 300 medical trainees.

Study design and period

A comparative cross sectional study was conducted from January 20, 2020 to February 10, 2020.

Participants

All residents of SPHMMC from the 4 major departments who were in clinical practice for more than 6 months as a resident were included.

Sample size and sampling procedures

Sample size was calculated for burnout based on Epi info- sample size calculation taking 95% confidence interval, 80% power with 1 to 1 ratio of the OBGYN residents versus the other major department residents and a total of 164 residents (80 OBGYN and 84 other major department residents which was allocated proportionately based on the number of residents at each major department as 36 in Internal Medicine, 18 in General Surgery and 30 in Pediatrics). This was further allocated proportionately based on the year of residency in each department as 80 OBGYN residents (27 year two, 26 year three, 27 year four) and 84 other major department residents as 36 Internal Medicine (18 year two, 18 year three), 18 General Surgery (6 year two, 7 year three, 5 year four), 30 Pediatrics (15 year two, 15 year three) residents were included.

Variables

The study outcome was magnitude of burnout, depression and job dissatisfaction in OBGYN residents and other major department residents.

The independent variables were socio-demographic characteristics and working condition factors. Socio-demographic characteristics include; age, sex, marital status, having children, spouse as a doctor and monthly income. Working condition factors include; specialty, post graduate year, number of continuous working hours, hours of work per week, time to reach to hospital, working in private setup, post graduate experience and satisfaction after choosing the specialty.

Data collection and quality control

Data were collected with 3 validated self-administered structured questionnaires; Maslach Burnout Inventory-Human Services Survey (MBIHSS), Center for Epidemiological Studies-Depression Scale (CES-D) and short form Minnesota Satisfaction Questionnaire (MSQ) for burnout, depression and job satisfaction respectively. Data completeness was checked by the principal investigator.

Operational definition

Burnout- operationalized as syndrome of emotional exhaustion, depersonalization, and reduced sense of personal accomplishment occurring in individuals who work in human services [13, 14]. Emotional exhaustion was measured as [High if score ≥ 27 , Moderate if score 17-26 and Low if score is 0-16]. Depersonalization was measured as [High if score ≥ 13 , Moderate if score 7-12 and Low if score is 0-6]. Personal accomplishment was measured as [High if score ≥ 39 , Moderate if score 32-38 and Low if score

is 0-31]. Burnout was labeled if any resident had high score in Emotional Exhaustion and/or Depersonalization [15].

Depression- operationalized as common and serious medical illness that negatively affects how you feel the way you think and how you act. It was measured based on score of Epidemiological Studies Depression Scale (CES-D). The 20 items in CESD scale measure symptoms of depression in nine different groups as defined by the American Psychiatric Association Diagnostic and Statistical Manual, fifth edition [16, 17, 18]. The nine groups are **Sadness** (Dysphoria), **Loss of Interest** (Anhedonia), **Appetite, Sleep, Thinking / concentration, Guilt** (Worthlessness), **Tired** (fatigue), **Movement** (Agitation), **Suicidal ideation**. The categorization was as

Meets criteria for Major depressive episode: Anhedonia or dysphoria nearly every day for the past two weeks, plus symptoms in an additional 4 DSM symptom groups noted as occurring nearly every day for the past two weeks;

Probable major depressive episode: Anhedonia or dysphoria nearly every day for the past two weeks, plus symptoms in an additional 3 DSM symptom groups reported as occurring either nearly every day for the past two weeks, or 5-7 days in the past week;

Possible major depressive episode: Anhedonia or dysphoria nearly every day for the past two weeks, plus symptoms in an additional 2 other DSM symptom groups reported as occurring either nearly every day for the past two weeks, or 5-7 days in the past week;

Subthreshold depression symptoms: People who have a CESD-style score of at least 16 but do not meet above criteria;

No clinical significance: People who have a total CESD-style score less than 16 across all 20 questions.

Job satisfaction- operationalized a measure of workers' contentedness with their job whether or not they like the job or individual aspects or facets of jobs such as nature of work or supervision [19, 20]. It was measured based on Minnesota Satisfaction Questionnaire (MSQ) score. MSQ has long form and short form. Each item refers to reinforcer in the work environment. The respondent indicates how satisfied with the reinforcer on present job. Five response alternatives are presented for each item: "Very Dissatisfied; Dissatisfied; Neither (dissatisfied nor satisfied); Satisfied; Very satisfied." Each MSQ scale consists of five items. The items appear in blocks of 20, with items constituting a given scale appearing at 20 item intervals. A percent score of 75 or higher is ordinarily taken to represent a high degree of satisfaction; a percent score

of 25 or lower would represent a low level of satisfaction; and score in the middle range of percent (26 to 74) would indicate average satisfaction [21].

Data processing and analysis

The data was cleaned, entered, and analyzed by using the SPSS version 25. Frequencies and cross tabulations were used to summarize descriptive statistics of the data and tables and graphs were used for data presentation. Multivariate analysis was done to assess the presence of association between variables. P value less than 0.05 and 95% CI was taken as statistically significant association.

Ethical consideration and consent

Ethical clearance obtained from St. Paul's Hospital Millennium Medical College Ethical Review Committee and consent was taken from each participant residents.

RESULTS

Demographic and working condition characteristics of respondents

Data was extracted from 164 respondents and majority 112(68.3%) were male and 52(31.7%) females. Majority 97(59.1%) were single and 67(40.9%) were married and among this 53(32.3%) have children and 44(26.82%) have spouse as a doctor. 66 (40.24%) were year II, 66 (40.24%) were year III and 32 (19.5%) year IV residents. 73 (44.5%) work in private setups and 91(55.5%) were not work in private setups (**Table 1**).

Burnout

In this study Majority of OBGYN residents 52(65%) had high Emotional exhaustion. More than half of other department residents 45(53.6%) had high Emotional exhaustion. Half of Internal Medicine residents 18(50%) had high Emotional exhaustion. More than half of General Surgery residents 11(61.1%) had high Emotional exhaustion. More than half of Pediatrics residents 16(53.3%) had high Emotional exhaustion (**Graph 1**).

High depersonalization was seen in 38(47.5%) of OBGYN, 37(44%) of other department residents. In Internal Medicine residents high depersonalization was seen in 11(30.6%). Half of General Surgery residents 9(50%) had high depersonalization. More than half of Pediatrics residents 17(56.7%) had high, depersonalization respectively (**Graph 2**).

Low personal accomplishment was seen in 36(45%) of OBGYN, 51(60.7%) of other department residents. More than half 21(58.3%) of Internal Medicine residents had low professional accomplishment. Majority 11(61.1%) of General Surgery residents and 19(63.3%) of Pediatrics residents had low professional accomplishment (**Graph 3**).

Depression

In OBGYN residents Subthreshold Depression was seen in 73(91.3%) and 7(8.8%) had No clinical significance. Among the other departments Subthreshold depression was seen in 75(89.3%) and 9(10.7%) had No clinical significance (**Table 3**).

Job satisfaction

Among OBGYN residents Majority 73(91.3%) had average level of satisfaction and 6(7.5%) had high level satisfaction. Among the other department residents majority 76(90.5%) had average level of satisfaction and 8(9.5%) had high level of satisfaction (**Table 4**).

Comparison of socio-demographic characteristics and working condition factors with emotional exhaustion, depersonalization and professional accomplishment.

Multinomial regression was conducted for factors associated with emotional exhaustion, professional accomplishment and depersonalization for OBGYN and other department (General Surgery, Internal Medicine and Pediatrics residents) and those with p value less than 0.2 were adjusted with multivariable logistic regression. Working in private set ups, marital status and spouse as a doctor were found to be statistically significant with emotional exhaustion in multinomial and multivariable logistic regression model and those OBGYN residents who work in private setups had 9.5 fold risk of having high Emotional exhaustion (AOR=9.5 (95%CI (1.104-81.801) and had 16 fold risk of having moderate Emotional exhaustion than those who do not (AOR=15.995(95% CI (1.575-162.465). Those other department residents who were unmarried had 6.8 fold more risk of having high emotional exhaustion (AOR=6.770(95%CI (1.675-27.360) than the married ones. And those with spouse as doctor had 8.7 fold more risk of having moderate emotional exhaustion (AOR=8.682(95%CI (1.425-52.919) than those without (**Table 5**).

Multinomial analysis between Burnout, Depression and Job satisfaction

Multinomial regression was conducted separately for OBGYN, General Surgery, Internal Medicine and Pediatrics residents. There was statistical significant association between Emotional Exhaustion and Subthreshold depression. In comparison to No-clinical significance depression among OBGYN residents, those who had high Emotional Exhaustion had 9 fold more risk of having Subthreshold depression than those with low Emotional Exhaustion (AOR=9 (95% CI (2.4-16.269)). In comparison to low Emotional exhaustion, those Internal Medicine residents with moderate professional accomplishment had 5 fold more risk of having moderate Emotional exhaustion (AOR=5 (95% CI (1.789_16.67) than those who had low professional accomplishment (**Table 6**).

DISCUSSION

Residency could be one of the stressful training periods in the streams of OBGYN, Internal Medicine, General Surgery and Pediatrics in Ethiopia. This is the first attempt of comparative study of Burnout, Depression and Job dissatisfaction in OBGYN residents versus other major department residents in Ethiopia. Among OBGYN residents 52(65%) had high Emotional exhaustion, 16(20%) had moderate Emotional exhaustion and 12(15%) had low Emotional exhaustion. And 38(47.5%), 24(30%), 18(22.55) had high, moderate and low depersonalization respectively. And 36(45%) had low professional accomplishment, 30(37.5%) had moderate professional accomplishment and 14(17.5%) had high professional accomplishment. Among other department residents 45(53.6%) had high Emotional exhaustion, 25(29.8%) had moderate Emotional exhaustion and 14(16.7%) had low Emotional exhaustion. In depersonalization, 37(44%) had high depersonalization, 34(40.5%) had moderate depersonalization and 13(15.5%) had low depersonalization. In term of personal accomplishment, 8(9.5%) had high personal accomplishment, 25(29.8%) had moderate personal accomplishment and more than half 51(60.7%) had low personal accomplishment. In a study conducted by Govardhan et al. in Gynecology residents in the United States, 58.2% had high Emotional Exhaustion, 21.8% had moderate Emotional Exhaustion and 20% had low Emotional Exhaustion. And 52.7% had high Depersonalization, 29.1% had moderate Depersonalization and 18.2% had low Depersonalization. And 27.3%, 32.7%, 40% had high, moderate and low Personal accomplishment respectively. [7]. In a similar study done by Martini et al. showed burnout was high in OBGYN residents (75%), Internal Medicine (63%) and General Surgery (60%) [5]. And our study result is consistent with these study findings and OBGYN residents have shown the highest percentage in three of the burnout dimensions as compared to other department residents.

Majority of residents in all the departments had Subthreshold depression. 86.1% of Internal Medicine, 93.3% of Pediatrics, 88.9% of General Surgery and 91.3% of OBGYN residents had Subthreshold depression. Emily G. Holmes conducted A Multispecialty Study of Resident and Program Director Perspectives on Contributors to Burnout and Potential Interventions, rate of depression was 20% in OBGYN, 18% in Internal medicine, 10% in Pediatrics, 26% in General Surgery residents respectively [4]. And our study result was showing higher rate of Subthreshold depression in all the departments unlike the unspecified depression type stated by Emily G. Holmes.

Majority of residents in all the departments had average job satisfaction. 97.2% of Internal Medicine, 86.7% of Pediatrics, 83.3% of General Surgery and 91.3% of OBGYN residents had average job satisfaction. Hutchinson-Colas conducted a survey in multispecialty residents and Job satisfaction in General surgery and OBGYN demonstrating for both below average job satisfaction [6]. In our study majority of the residents from all the departments had average job satisfaction.

Working in private setups has significant association with moderate and high Emotional exhaustion in OBGYN residents. Those who work in private setups had 9.5 fold risk of having high emotional exhaustion (AOR=9.5 (95%CI (1.104-81.801)) and had 16 fold more risk of having moderate emotional than who do not (AOR=15.995(95%CI (1.575-162.465)). But being unmarried and having spouse as doctor are significantly associated with moderate and high Emotional exhaustion in other department residents. Those who were unmarried had 6.8 fold more at risk of having high emotional exhaustion than the married ones (AOR=6.770(95%CI (1.675-27.360)). And those with spouse as doctor had 8.7 fold more risk of having moderate emotional exhaustion (AOR=8.682(95%CI (1.425-52.919)) than those without. Martini et al. reported being single is associated with burnout [5]. In our study this is consistent for other department residents not for OBGYN residents.

Those OBGYN residents who had high Emotional Exhaustion had 9 fold more risk of having Subthreshold depression than those with low Emotional Exhaustion (AOR=9 (95% CI (2.4-16.269)). In a study conducted by Govardhan et al. in Gynecology residents in the United States, showed that correlation of depression with all dimensions of burnout [7]. In a meta-analysis done by Panagiota Koutsimani showed a significant association between burnout and depression [10]. In our study high Emotional Exhaustion is directly related to Subthreshold depression. OBGYN residents with high depersonalization had 7 fold more risk of having high Emotional Exhaustion than who had low depersonalization (AOR=7(95% CI (3.4-7.961)). And residents with moderate depersonalization had 5 fold more risk of having high Emotional Exhaustion than those who had low depersonalization (AOR=5(95% CI (3.6-6.934)). In this study we showed the relation of dimensions burnout one over the other in OBGYN residents.

Internal Medicine residents with moderate professional accomplishment had 5 fold more risk of having moderate Emotional Exhaustion (AOR=5 (95% CI (1.789_16.67) than those who low professional accomplishment.

CONCLUSIONS

In this study > 50 % of all the residents met the criteria for burnout, 65% in OBGYN and 53% in other department residents. Majority of OBGYN (91.3%) and other department (89.3%) residents had Subthreshold depression. Average job satisfaction was seen in majority of all department residents. Working in private setups was associated with burnout in OBGYN but being unmarried and having doctor spouse were associated with burnout in other department residents. Subthreshold depression was associated with burnout.

RECOMMENDATIONS

Our study is done in a single center with small sample size showing burnout in more than half of residents. This could be an eye opener and attention should be given for burnout, depression and job dissatisfaction in practicing residents. We recommend a multicenter with higher sample size study to come up with better knowledge regarding these problems.

ABBREVIATIONS

CES –D- Center for Epidemiological Studies-Depression Scale

DSM- Diagnostic Statistical Manual

ETB- Ethiopian Birr

MBIHSS- Maslach Burnout Inventory-Human Services Survey

MSQ- Minnesota Satisfaction Questionnaire

OBGYN- Obstetrics and Gynecology

SPHMMC – Saint Paul Hospital Millennium Medical College

SPSS- Statistical Software for Social Sciences

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Table 1: Socio-demographic and working condition characteristics of OBGYN residents and other department residents in SPHMMC, Addis Ababa, Ethiopia , from January 20, 2020 to February 10, 2020 (n=164)

Variables		Number	Percent
Sex	Male	112	68.3%
	Female	52	31.7%
Age category	<24 years	2	1.2%
	24_30 years	125	76.2%
	30_35 years	37	22.6%
Marital status	Single	97	59.1%
	Married	67	40.9%
Have children	Yes	53	32.3%
	No	11	67.7%
Specialty	OBGYN	80	48.8%
	Internal medicine	36	22%
	General surgery	18	11%
	Pediatrics	30	18.3%
Post graduate year	II	66	40.24%
	III	66	40.24%
	IV	32	19.5%
No-of continuous working hour	<30	45	27.4%
	≥30	119	72.6%
Hours of work per week	50_56	27	16.5%
	57-72	54	32.9%
	73-89	43	26.2%
	≥90	40	24.4%
Time to reach hospital	Less than 30 minutes	41	25%
	30_60 min	90	54.9%
	>60 min	33	20.1%
Spouse as doctor	Yes	44	26.8%
	No	120	73.2%
Do you work in private setups	Yes	73	44.5%
	No	91	55.5%
Are you satisfied after choosing this specialty	Yes	110	67.1%
	No	54	32.9%
Monthly income	7111 ETB	19	11.6%
	7111-10047 ETB	73	44.5%
	>10047 ETB	72	43.9%

Table 2: Prevalence of Emotional exhaustion, depersonalization, and professional accomplishment in OBGYN residents and other department residents in SPHMMC, Addis Ababa, Ethiopia, from January 20, 2020 to February 10, 2020 (n=164).

Variable		Specialty				
	OBYGYN	Other (general surgery, and pediatric internal medicine)	Internal Medicine	General Surgery	Pediatrics	Total N (%)
Emotional exhaustion						
High	52(65%)	45(53.6%)	18(50%)	11(61.1%)	16(53.3%)	97(59.1%)
Moderate	16(20%)	25(29.8%)	10(27.8%)	5(27.8%)	10(33.35%)	41(25%)
Low	12(15%)	14(16.7%)	8(22.2%)	2(11.1%)	4(13.3%)	26(15.9%)
Depersonalization						
High	38(47.5%)	37(44%)	11(30.6%)	9(50%)	17(56.7%)	75(45.7%)
Moderate	24(30%)	34(40.5%)	19(52.8%)	6(33%)	9(30%)	58(35.4%)
Low	18(22.55)	13(15.5%)	6(16.7%)	3(16.7%)	4(13.3%)	31(18.9%)
Professional accomplishment						
High	14(17.5%)	8(9.5%)	2(5.6%)	4(22.2%)	2(6.7%)	22(13.4%)
Moderate	30(37.5%)	25(29.8%)	13(36.1%)	3(16.7%)	9(30%)	55(33.5%)
Low	36(45%)	51(60.7%)	21(58.3%)	11(61.1%)	19(63.3%)	87(53%)

Table3: Different groups of depression and categories in OBGYN residents and other department residents in SPHMMC, Addis Ababa, Ethiopia , from January 20, 2020 to February 10, 2020 (n=164).

Variable(groups of depression)	Specialty				Total N (%)
	OBYGYN	Internal Medicine	General Surgery	Pediatrics	
Sadness (Dysphoria)					
Yes	1(1.3%)	0	1(5.6%)	0	2(1.2%)
No	79(98.8%)	36(100%)	17(94.4%)	30(100%)	162(98.8%)
Loss of Interest (Anhedonia)					
Yes	4(5%)	0	2(11.1%)	0	6(3.7%)
No	76(95%)	36(100%)	16(88.9%)	30(100%)	158(96.3%)
Appetite					
Yes	2(2.5%)	0	1(3.3%)	1(3.3%)	4(2.4%)
No	78(97.5%)	36(100%)	17(94.4%)	29(96.7%)	160(97.6%)
Sleep					
Yes	1(1.3%)	0	0	0	1(0.6%)
No	79(98.8)	36(100%)	18(100%)	30(100%)	163(99.4%)
Thinking / concentration					

Yes	2(2.5%)	0	0	0	2(1.2%)
No	78(97.5%)	36(100%)	18(100%)	30(100%)	162(98.8%)
Guilt (Worthlessness)					
Yes	0	0	0	0	0
No	80(100%)	36(100%)	18(100%)	30(100%)	164(100%)
Tired (fatigue)					
Yes	12(15%)	1(2.8%)	0	0	13(7.9%)
No	68(85%)	35(97.2%)	18(100%)	30(100%)	151(92.1%)
Movement (Agitation)					
Yes	1(1.3%)	1(2.8%)	0	1(3.3%)	3(1.8%)
No	79(98.8%)	35(97.2%)	18(100%)	29(96.7%)	161(98.2%)
Suicidal ideation					
Yes	0	0	1(5.6%)	0	1(0.6%)
No	80(100%)	36(100%)	17(94.4%)	30(100%)	163(99.4%)
Overall depression categorization					
Subthreshold depression	73(91.3%)	31(86.1%)	16(88.9%)	28(93.3%)	148(90.2%)
No Clinical significance	7(8.8%)	5(13.9%)	2(11.1%)	2(6.7%)	16(9.8%)
Variable(groups of depression)	Specialty				
	OBYGYN	Other (general surgery, pediatric and internal medicine)	Internal Medicine	General Surgery	Pediatrics
Subthreshold depression	73(91.3%)	75(89.3%)	31(86.1%)	16(88.9%)	28(93.3%)
No Clinical significance	7(8.8%)	9(10.7%)	5(13.9%)	2(11.1%)	2(6.7%)
					Total N (%)
					148(90.2%)
					16(9.8%)

Table 4: Comparison of Job satisfaction in OBGYN residents and other department residents in SPHMMC, Addis Ababa, Ethiopia , from January 20, 2020 to February 10, 2020 (n=164).

Variable	Specialty					Total N (%)
	OBGYN	Other (general surgery, pediatric and internal medicine	Internal Medicine	General Surgery	Pediatrics	
Satisfaction levels						
High level satisfaction	6(7.5%)	8(9.5%)	1(2.8%)	3(16.7%)	4(13.3%)	14(8.5%)
Average level satisfaction	73(91.3%)	76(90.5%)	35(97.2%)	15(83.3%)	26(86.7%)	149(90.9%)
Low level satisfaction	1(1.3%)	-	0	0	0	1(0.6%)

Table 2 Multi nominal and multivariate analysis of factors associated with Emotional exhaustion, depersonalization and professional accomplishment in OBGYN residents and other department residents in SPHMMC, Addis Ababa, Ethiopia , from January 20, 2020 to February 10, 2020 (n=164).

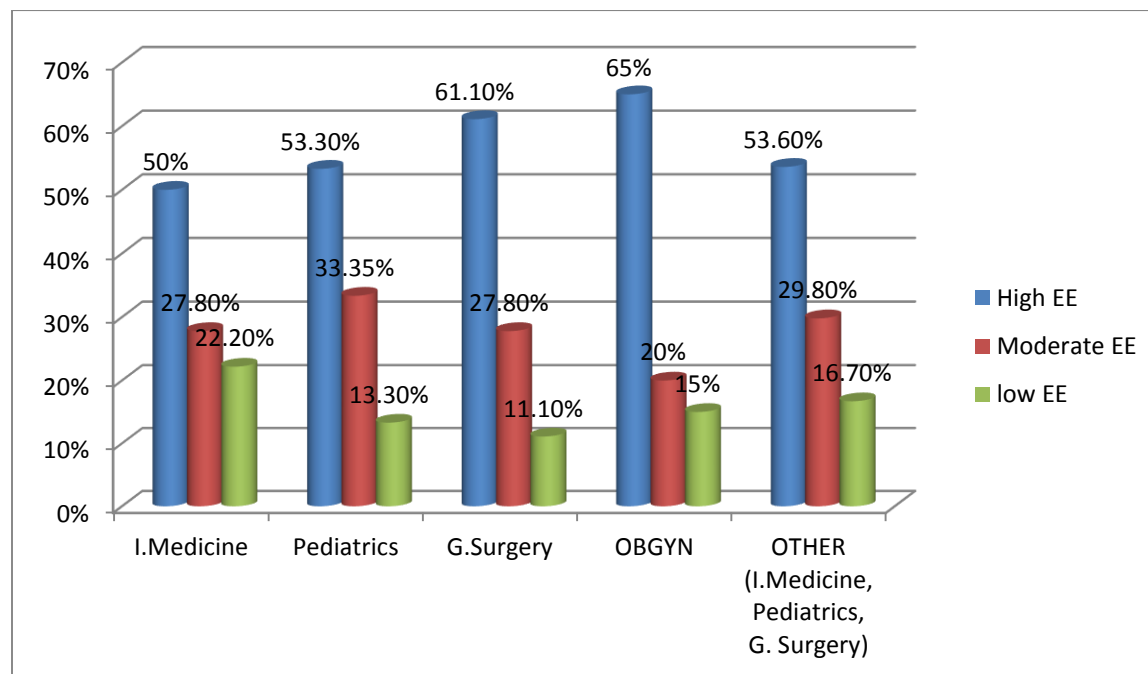
Specialty	Variable		COR(95%CI)	AOR(95%CI)	P value
Obstetrics and gynecology residents					
High emotional exhaustion	Do you work in private setups	Yes	8.724(1.048-72.609)	9.502(1.104_81.801)	0.040*
		No	1	1	1
Moderate emotional exhaustion	Do you work in private setups	Yes	14.143(1.457-137.298)	15.995(1.575-162.465)	0.019*
		No	1	1	1
Other major residents (pediatrics ,general surgery, internal medicine)					
High emotional exhaustion	Marital status	Unmarried	4.121(1.171-14.5)	6.770(1.675-27.360)	0.007*
		Married	1	1	1
Moderate emotional exhaustion	Spouse as doctor	Yes	5.538(1.022-30.019)	8.682(1.425-52.919)	0.019*
		No		1	1
Low professional accomplishment	Post graduate year	Year two	25(1.932-323.553)	15.015(0.947-238.149)	0.055
		Year three	37.5(2.564-548.364)	24.426(1.454_410.425)	0.026*
		Year four	1	1	1

Table 6: Multivariate analysis Emotional exhaustion, depersonalization, professional accomplishment and depression in OBGYN residents and other department residents in SPHMMC, Addis Ababa, Ethiopia, from January 20, 2020 to February 10, 2020 (n=164).

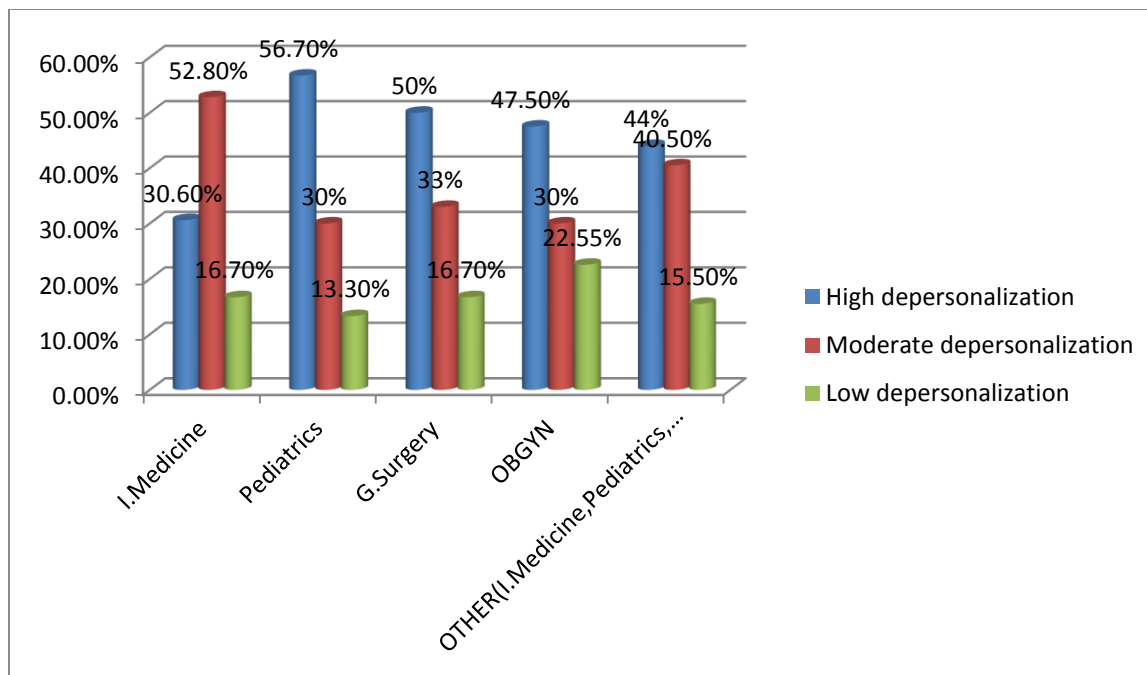
Specialty	Variables		COR (95% CI)	AOR(95%CI)	P-value
OBGYN	Moderate Professional accomplishment	High Depersonalization	1	1	1
		Moderate Depersonalization	7.5(1.3-44.085)	5.2(5-15.013)	0.016*
		Low Depersonalization	6(1.1-36.908)	4.2(3.15-34.9)	0.001*
N.B the reference category is: high professional accomplishment for split file specialty Obstetrics and gynecology residents.					
OBYGN	Sub threshold depression	High EE	17(1.587-182.13)	9(2.4-16.269)	0.001*
		Moderate EE	1.4(0.236-8.844)	4.44(0.614-10.164)	0.78
		Low EE	1	1	1
N.B The reference category is: no clinical significance for split file Specialty Obstetrics and gynecology residents.					
OBGYN	High Emotional Exhaustion	High Depersonalization	36.67(8.72-67.35)	7(3.4-7.961)	0.000*
		Moderate Depersonalization	15.85(3.841-67.32)	5(3.6-6.934)	0.003*
		Low Depersonalization	1	1	1
N.B The reference category is: low EE for split file specialty Obstetrics and gynecology residents.					
Internal Medicine	Moderate Emotional Exhaustion	High professional accomplishment	7.11(0.41_29.4)	7.11(0.98-17.65)	0.998
		Moderate professional accomplishment	8(1.061-60.324)	5(1.789_16.67)	0.002*
		Low professional accomplishment	1	1	1
N.B The reference category is: low EE for split file specialty Internal Medicine.					

*Statistically significant at P value less than 0.05 and 95% CI.

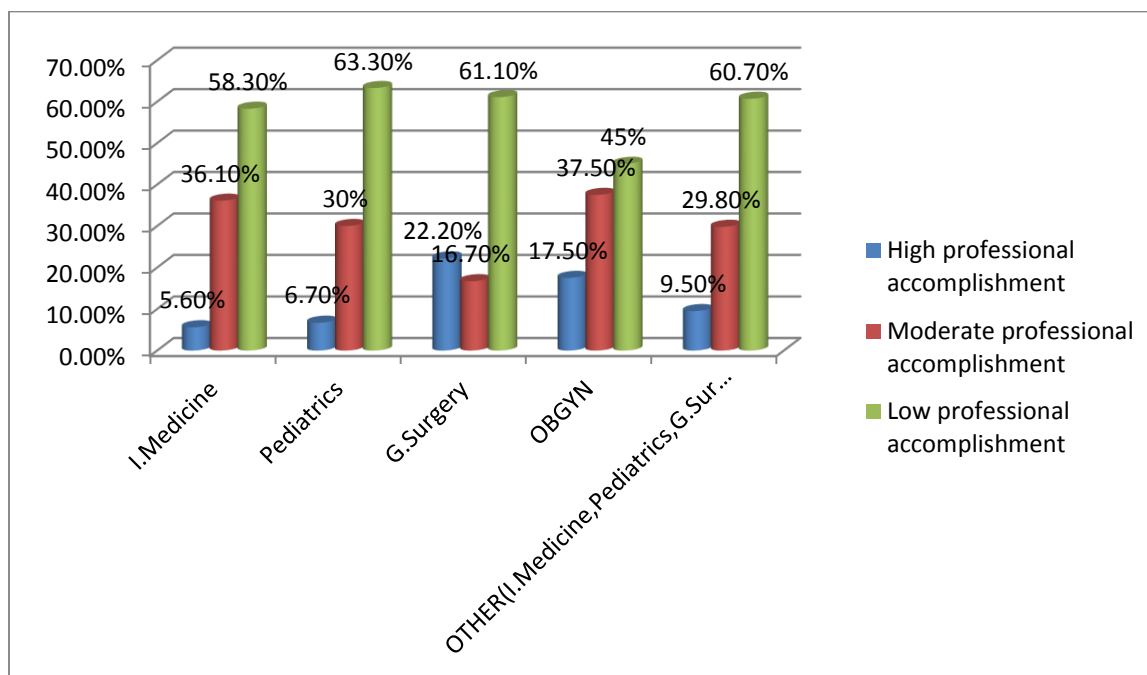
Graph 1: comparison of Emotional Exhaustion in in OBGYN residents and other department residents in SPHMMC, Addis Ababa, Ethiopia, from January 20, 2020 to February 10, 2020 (n=164).



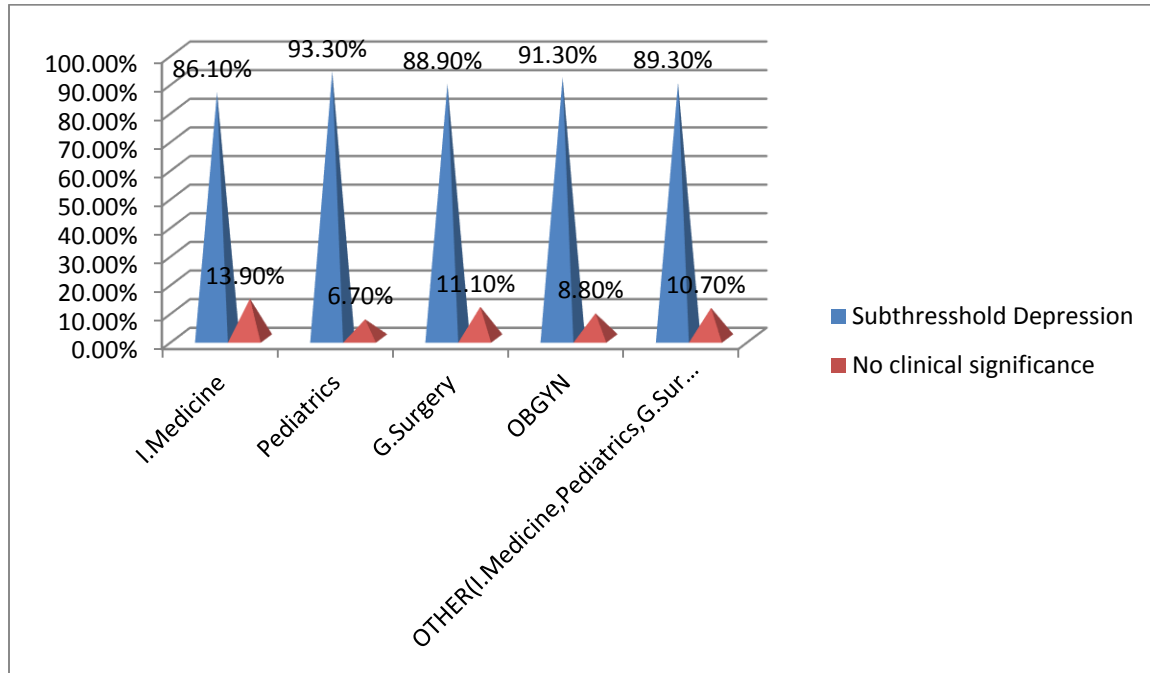
Graph 2: Comparison of Depersonalization in in OBGYN residents and other department residents in SPHMMC, Addis Ababa, Ethiopia, from January 20, 2020 to February 10, 2020 (n=164).



Graph 3: Comparison of professional accomplishment in OBGYN residents and other department residents in SPHMMC, Addis Ababa, Ethiopia , from January 20, 2020 to February 10, 2020 (n=164).



Graph 4: Comparison of Depression in OBGYN residents and other department residents in SPHMMC, Addis Ababa, Ethiopia, from January 20, 2020 to February 10, 2020 (n=164).



Graph 5: Comparison of satisfaction level in OBGYN residents and other department residents in SPHMMC, Addis Ababa, Ethiopia, from January 20, 2020 to February 10, 2020 (n=164).

