

## Research Article

**Burnout Syndrome among General Practitioners in A Tertiary Referral Center**Ayu H. Syarif,<sup>1\*</sup> Hafidz N. Ichwan,<sup>1</sup> Anita Meisita,<sup>2</sup> Mururul Aisyi,<sup>2</sup> Rahajeng Dewantari<sup>3</sup><sup>1</sup>Department of General Practice, Indonesia National Cancer Center –  
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**Abstract**

Many demanding jobs, such as medical professionals are the targets of burnout syndrome. Although burnout syndrome was frequently reported in many studies abroad, Indonesia lacks the relevant data specifically burnout syndrome in the hospital staff. This study aimed to determine burnout syndrome in a tertiary referral center and its associated factors. This was a cross-sectional study involving general practitioners who worked in a tertiary referral hospital. The questionnaire used the Maslach Burnout Inventory (MBI). This study was performed in a tertiary referral hospital in Jakarta, from March to April 2019. The data were analyzed using univariate and bivariate analysis and compared with the chi-square test or Fisher test. Results: The total participants were 31 doctors; 25 of them were female, while half of them worked in the hospital at under 30 years ( $n=16$ ). Most of them were married ( $n=20$ ) and had a shift in the clinical unit ( $n=23$ ). The majority of them worked longer than others ( $n=24$ ) and earned a lower level of monthly salary ( $n=19$ ). As many as 12 physicians in this institution were detected to be burnout. Medical doctors who suffered from burnout are marked with female ( $n=10$ ), young age ( $n=10$ ), marriage ( $n=9$ ), longer working hours ( $n=11$ ), low salary ( $n=7$ ), and less working experience ( $n=6$ ). Bivariate analysis showed age significantly associate with burnout syndrome ( $P\text{-value}=0.010$ ). Burnout syndrome was found among medical doctors in a tertiary referral center with age as the only significant associating factor.

**Keywords:** burnout syndrome, doctor, hospital**Kejadian Burnout Syndrome pada Dokter Umum di Sebuah Rumah Sakit Rujukan Tertier****Abstrak**

Sindrom Burnout banyak ditemukan pada profesi tertentu seperti dokter. Meskipun demikian, data mengenai angka kejadian Sindrom Burnout belum banyak dilaporkan di Indonesia, khususnya pada profesi dokter umum yang bertugas di rumah sakit rujukan tersier. Penelitian ini dilakukan untuk menentukan angka kejadian dan faktor yang berpengaruh terhadap Sindrom Burnout pada dokter umum rumah sakit rujukan tersier. Studi potong lintang ini melibatkan 31 dokter umum sebagai responden penelitian. Studi ini dilakukan di sebuah rumah sakit rujukan tersier di Jakarta, pada bulan Maret-April 2019. Pengambilan data primer menggunakan kuesioner Maslach Burnout Inventory (MBI) untuk menentukan kejadian Sindrom Burnout. Data dianalisa dengan analisa univariat (data sosiodemografi) dan bivariat. Analisa bivariat dilakukan untuk melihat hubungan antara variabel karakteristik sosiodemografi terhadap kejadian Sindrom Burnout dengan menggunakan chi-square test atau fisher test. Hasil : Responden sebagian besar merupakan wanita ( $n=25$ ), yang telah menikah ( $n=20$ ), bekerja di unit pelayanan ( $n=23$ ), bekerja lebih dari 60 jam ( $n=24$ ), dan berpenghasilan di bawah 10 juta ( $n=19$ ). Sebanyak 12 dokter umum mengalami Sindrom Burnout. Sindrom Burnout pada dokter umum ditandai dengan perempuan ( $n=10$ ), usia yang lebih muda ( $n=10$ ), telah menikah ( $n=9$ ), jam kerja yang lebih lama ( $n=11$ ), penghasilan yang lebih rendah ( $n=7$ ), dan pengalaman kerja yang lebih sedikit ( $n=6$ ). Analisis bivariat menunjukkan usia berhubungan secara signifikan terhadap kejadian Sindrom Burnout ( $P\text{-value}= 0,010$ ). Sindrom burnout dialami oleh dokter umum yang bekerja di rumah sakit rujukan tersier. Usia merupakan satu-satunya faktor yang berhubungan dengan sindrom burnout.

**Kata Kunci :** sindrom burnout, dokter umum, rumah sakit.

## Introduction

Burnout is firstly described by Maslach<sup>1</sup> as various degrees of emotional exhaustion, depersonalization, and a low sense of personal accomplishment. It is also stated that burnout occurs as energy turns into exhaustion, involvement turns into cynicism, and efficacy turns into ineffectiveness.<sup>2</sup> Burnout is also considerably hazardous for several occupations such as public employees, company workers, and health care providers.<sup>3</sup>

Healthcare personnel is the most affected profession which suffers from chronic stress at work. The risk of getting burnout was affected by a combination of personal and organizational factors in the medical environment.<sup>4</sup> Studies found that younger age, female, negative marital status, long working hours, and low job satisfaction are associated with burnout syndrome among physicians.<sup>4,5</sup> Furthermore, the imbalance between work rewards and work efforts become the most significant predictive factors of burnout in oncology professionals.<sup>6</sup>

Being exposed to burnout allows physicians to lower patient satisfaction and poor patient safety outcome as a result of more medical errors.<sup>7,8</sup> Physically, medical doctors are gradually developing symptoms related to burnout, such as fatigue, irritable, even increasing the risk of the road accident. Psychologically, burnout created risk factors for mental health problems such as mood disorder, depression, and disruptive behavior.<sup>9</sup> These are all ultimately contribute to the impairment of productivity.

The occurrence of burnout among health professions particularly general physicians was prevalent in many studies. Despite many research highlighting burnout in medical doctors around the world, there is no data regarding prevalence and risk factors of burnout among hospital doctors in Indonesia. Therefore, this study was performed to determine burnout prevalence and its correlated factors among hospital physicians in a tertiary referral center.

## Methods

This cross-sectional study was performed at X Hospital in Jakarta. The participant were general practitioners who had on-call duty either in the ward or in the emergency room. Data was collected by a total sampling method, including 33 general practitioners. Out of these, only 31 physicians completed the Maslach Burnout Inventory

Questionnaire, and two physicians were excluded due to incomplete responses. Data were collected over one month in August 2019.

As previously mentioned, primary data were collected by questionnaires. The questionnaire consisted of two sections; the first section is socio-demographical features such as sex, working unit, marital status, monthly salary, number of years in practice, and working hours per week. The second section is the MBI questionnaire, which constitutes three items; emotional exhaustion, personal achievement, and depersonalization. Each item is represented by a set of questions, e.g emotional exhaustion comprises of nine questions, personal achievement with eight questions, and depersonalization with five questions. Each item is rated on multiple choices based on the frequency of occurrence as follows: never, few times in a year, once in a month, few times in a month, once in a week, few times in a week, and every day. The score of each option varies from 0 to 7. An individual is considered to have a burnout if they have high scores on either the EE (total score of 27 or higher) or DP (total score of 10 or higher) subscales.<sup>10</sup>

The MBI score is categorized into low, moderate, and high burnout. In terms of emotional exhaustion (EE), low EE is defined if score 17 or less, whereas scoring 18-29 and over 30 is considered as moderate and high EE, respectively. The depersonalization domain acknowledges score at 5 or less as low, score 6-11 as moderate, and score 12 and greater as high. In contrast, on the personal accomplishment aspect, a score 33 or less is regarded as high burnout, score 34-39 as moderate burnout, and score more than 40 as low burnout. The study was approved by the ethical committee of Dharmas Cancer Hospital (No.100/KEPK/VI/2019). All participants provided informed consent. The physician who refuses to fill the questionnaire was excluded from this study.

Data was plotted into an excel form and was coded for its answer. The final coding was then analyzed statistically with Statistic Package for Social Service version 22. All socio-demographic variables and three dimensions of burnout were measured with descriptive analyses and compared to each other using the chi-squared or Fisher's exact test as appropriate. P-value <0.05 was considered statistically significant.

## Results

Respondents in this study were mainly women (Table 1). The number of married staff outnumbered

the unmarried ones (20 vs. 11). The majority of the general practitioners worked in the clinical units such as a ward, polyclinic, etc. (n=23) and for more than one year (n=15). More than half of the participants (n=19) earned a lower salary than their colleagues (n=12). Additionally, about three-fourth of the doctors worked in the hospital for more than sixty hours per week (n=24).

**Table 1. Characteristics of Respondents (n=31)**

Variable	Frequency
Gender	
Male	6
Female	25
Age	
< 30 years	16
≥ 30 years	15
Marital Status	
Unmarried	11
Married	20
Working Unit	
Management	8
Clinical Unit	23
Working Experience	
<6 months	10
1-12 onths	6
>12 months	15
Working Hour	
1-60 hours	7
>60 hours	24
Salary	
1-20 million	12
<10 million	19
History of Mental Illness	
No	31

Overall, Burnout Syndrome was found among 12 medical doctors in X institution. Regarding three subscales of burnout (Table.2), most general practitioners showed higher level of depersonalization (n=11) yet higher personal achievement (n=31) and lower emotional exhaustion (n=22)

**Table 2. Burnout Domain of General Practitioners of X Hospital**

Burnout Items	Frequency
Emotional Exhaustion	
Low	22
Moderate	8
High	1
Personal Achievement	
Low	0
Moderate	0
High	31
Depersonalisation	
Low	11
Moderate	9
High	11
Burnout	
Yes	12
No	19

Burnout was generally observed in doctors who were female (n=10), married (n=9), aged under 30 years (n=10), working in clinical units (n=9), had less working experience (n=6), had longer working hours (n=11), and had lower income (n=7). Nevertheless, a higher proportion of females (n=15), married doctors (n=11), clinical unit workers (n=14) did not experience burnout syndrome. Similarly, thirteen doctors were not classified as burnout despite having a longer shift. The majority of doctors did not indicate any burnout syndrome (table.3), especially doctors who were more senior (n=13), more experienced (n=11), and higher salary (n=14). As shown in table 3., among all variables, age was the only associated factor in burnout syndrome (P-value= 0.005, OR 10.8 CI 1.79-65.55).

The Table 4. shows the association between the variable and burnout domain. The working unit and working hours are significantly associated with the level of emotional exhaustion (P-value= 0.041 and 0.040, respectively). In the context of depersonalization, age was the only variable that defines level of depersonalization (p-value 0.010).

**Table 3. Socio-demographical Factors Associated to Burnout Syndrome of General Practitioners of X Hospital**

Variable	Burnout		P-value	OR	95% CI
	Yes	No			
Gender					
Male	2	4			
Female	10	15	1.000*	1.33	0.20-8.70
Age					
≥ 30 years	2	13			
< 30 years	10	6	0.005	10.8	1.79-65.55
Marital Status					
Unmarried	3	8			
Married	9	11	0.452*	2.18	0.44-10.73
Working Unit					
Management	3	5			
Clinical Unit	9	14	1.000*	1.07	0.20-5.63
Working Experiences					
>12 months	4	11			
6-12 months	2	4	0.104*	1.38	0.18-10.65
<6 months	6	4	0.760*	4.13	0.75-22.71
Working Hours					
40-60 hours	1	6			
>60 hours	11	13	0.201*	5.08	0.53-48.86
Salary					
10-20 million	5	14			
<10 million	7	5	0.130*	3.92	0.84-18.21

\*Fisher Test

## Discussions

General practitioners have high rates of burnout. This study revealed that burnout syndrome is frequent among general practitioners. A similar result can be found in many previous reports. In UK, general physicians were acclaimed to suffer the most from burnout.<sup>11,12</sup> Two studies<sup>13,14</sup> from Ireland and Colombia detected burnout in 6.6% medical doctors, with approximately half of them having a higher level of emotional exhaustion. Another report by Adam<sup>15</sup> et al. stated that about one-third of general practitioners showed a high level of emotional exhaustion and depersonalization.

Some factors are attributable to burnout occurrence. Current study revealed that married doctors tend to be burnout. This result was in parallel to the study of Mahfouz<sup>16</sup> et al. which highlighted the correlation between marital status and burnout in terms of low personal accomplishment. Work-home conflicts such as raising a child and non-medical profession spouse were known to induce burnout in a married doctor.<sup>8</sup> Although, other studies<sup>17,18</sup> were still inconsistent with this finding.

Hospital physicians with higher weekly working hours and lower salaries are more likely to suffer from burnout. It is also worth mentioning that longer working hours is associated with higher emotional exhaustion. This might be due to the longer exposure of high-pressure jobs which is cognitively intensive and declining sleep quality.<sup>16</sup> According to International Labor Organization<sup>17</sup>, an optimal working hour per week is 48 hours. Meanwhile, the Act of the Republic of Indonesia Number 13 Year 2003 concerning manpower, stated that the working hours allowance for Indonesia citizens is 40 hours per week.<sup>18</sup> However, another regulation issued by the Ministry of Manpower and Transmigration classifies health service professions as continuing employees.<sup>19</sup> This means that doctors inevitably obligate to extra work hours and extra paid. Unfortunately, there is no regulation on the amounts of required hours per week for such medical doctors.

Salary has been the major concern for burnout doctors in this study as the majority earn less than ten million rupiahs monthly. Obviously, this basic

salary is under 12.5 million per month, which is the minimum recommendation of the Indonesian Physicians Association (IDI)<sup>20</sup> in 2013. This finding was previously reported by Jibril<sup>21</sup> et al. in a large scale study on Indonesia's general practitioners. The study found that as many as 94.47% general

practitioners were underpaid despite adequate or even excessive working hours. Low income and low remuneration or compensation were considered as influential factors for decreased job satisfaction of many doctors in conjunction with lack of appreciation.<sup>22</sup>

**Table 4. Bivariate Analysis of the Relationship between Socio-demographical Factors and Burnout Domain among General Practitioners of X Hospital**

Variable	Emotional Exhaustion			P-value	Depersonalization			P-value
	Low	Moderate	High		Low	Moderate	High	
Gender								
Male	5	0	1	0.079*	1	3	2	0.453
Female	17	8	0		10	6	9	
Age								
<30 years	9	6	1	0.160*	2	5	9	0.010
≥ 30 years	13	2	0		9	4	2	
Marital Status								
Unmarried	9	2	0	0.789*	5	2	4	0.579
Married	13	6	1		6	7	7	
Working Unit								
Management	15	7	1	0.041*	7	5	11	0.745
Clinical Unit	7	1	0		4	4	0	
W o r k i n g Experiences								
>12 months	11	3	1	0.745*	7	3	5	0.296
6-12 months	5	1	0		3	1	2	
<6 months	6	4	0		1	5	4	
Working Hours								
40-60 hours	16	8	0	0.040*	6	8	10	0.123
>60 hours	6	0	1		5	1	1	
Salary								
10-20 million	7	5	0	0.206	2	5	5	0.265
<10 million	15	3	1		9	4	0	

We found that within the same level of professional experience, general practitioners with the least working experience suffered the most from burnout. The possible explanation can be inadequacy in experience. Newcomers mostly have a certain period to adapt to new environment. Aras<sup>23</sup> et al. also argued that more extended professional expertise leads to higher self-confidence and good problem-solving skill. These two traits yield higher personal accomplishment and the ability to avoid burnout.

Nevertheless, the aforementioned factors were not shown any significant association with burnout ( $p>0.05$ ). Meanwhile, being younger doctors become the only predicting factor for developing

burnout and more specifically, depersonalization ( $P$ -value=0.010). The risk of getting burnout in this population is 10.8 times higher than senior doctors ( $P$ -value 0.005, 95% CI 1.79-65.55). It was highlighted in the previous studies<sup>24,25</sup> that the rise of age goes hand in hand with burnout risk reduction. It is also obvious that increasing age is related to the number of experiences and better problem-solving management as well as a coping mechanism towards work-related stressors.

Sex differences pointed out some importance in burnout. In general, women scored higher and showed a significant correlation with emotional exhaustion. This finding was previously interpreted

as the earlier process of development of burnout. Women tend to suffer from emotional exhaustion before any other burnout dimensions. According to an evaluation of the burnout domain causal relationship by Toon<sup>26</sup> et al., which was supported by Houkes' study<sup>27</sup> in general practitioners, emotional exhaustion is the first symptom that may develop as a result of chronic job-related stress. This, in turn, leads to depersonalization marked with the dysfunction of a personal coping mechanism. If depersonalization persists, it will automatically allow the person to the feeling of low achievement.

The clinical environment is an igniting setting for developing burnout. Physicians in the clinical unit face many problems in providing care to patients. In addition to this, there is a responsibility to accomplish additional tasks, such as managing a medical resume or completing an initial assessment. In our institution, general practitioners, especially those who have their duty in the ward, act as front liners in emergency interventions and administrative requirements. This made the administrative burden outdoes the clerical responsibilities towards patients. This was also reflected in the national survey in 2014, which examined less satisfaction and high personal exhaustion in physicians using electronic health records (EHRs) and computerized physician order entry (CPOE).<sup>25</sup>

This study has several limitations. Firstly, as a cross-sectional study, this study only provides the association between socio-demographical factors with burnout syndrome. Secondly, this study did not assess the consequences of burnout as well as personality type as a risk factor for burnout. Consequently, further research with cohort design and specific variables are required to validate the result.

## Conclusions

Burnout was generally observed in General Practitioners of X Hospital who were female, married, aged under 30 years, working in clinical units, had a less working experience, had longer working hours, and had lower income. Age was the only significant associating factor. With burnout

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