

Effect of the Burden Incurred by Tobacco-Defective Patients on Lost Productivity

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Abstract: The economic and health burden of the tobacco community is increasingly burdensome for low- and middle-income countries, including Indonesia, compared to high-income countries. The total losses due to cigarette consumption in 2013 reached Rp 378.75 trillion. The amount is derived from the loss of cigarette purchases of Rp 138 trillion, the loss of productivity due to disease, disability and premature death at a young age of Rp 235.4 trillion, and medical expenses due to tobacco-related illness of Rp. 5.35 trillion. The purpose of this study was to determine the effect of the load burden caused by tobacco defect patients on lost productivity. The method used is that of a literature study. This study found: Disability poses psychological burdens related to motivation; people with disabilities have low motivation and have an effect on decreasing productivity. Conclusion: a decrease in productivity that will increase the burden for others.

1 INTRODUCTION

Tobacco is known to have killed nearly 6 million people per year, 5 million of whom are smokers and former smokers (Indonesian Ministry of Health, 2010). The data shows that most smokers are in low- and middle-income countries. Every year, the number of smokers continues to increase and is followed by smokers in the younger age group (Direktorat PTPM, 2012). Indonesia is the third largest cigarette consuming country in the world as well as the fifth largest tobacco leaf producer in the world (GATS, 2011). The Global Adult Tobacco Survey results showed that cigarette consumption in Indonesia in 2008 reached 225,000 billion cigarettes (Muchijidin, 2009). The survey results also showed that the number of tobacco users in the form of cigarettes and other forms covers about 36% of the total population of Indonesia. It is also known that the largest cigarette users come from the lower income levels of society. Not only is this from a low economic point of view, but cigarette users also have a low level of knowledge about the dangers of smoking.

The increase in cigarette consumption each year causes quite a lot of losses, not only in relation to health but also in terms of the economy. One of the

major losses Indonesia has to endure is the growing number of smokers at an increasingly young age (GATS, 2011). This will indirectly affect the productivity of society, as well as the excessive consumption of cigarettes causing disease to the point of disability. According to the WHO, cigarettes are known to be the main cause of the high mortality rates of cardiovascular disease after hypertension. According to Balitbangkes' 2010 data, cigarette expenditure from cigarettes reached Rp 245.41 trillion, including cigarette purchases from the community of 138 trillion, loss of productivity due to disability at a young age of Rp 105.3 trillion, and medical expenses of Rp 2.11 trillion. Hospitalisation costs due to smoking-related illnesses amounted to Rp 1.85 trillion and smoking-related outpatient costs amounted to Rp 0.26 trillion (Kosen, 2012). Another disadvantage is the disruption of productivity due to illness, disability, and premature death at a young age to the cost of Rp 235.4 trillion. Judging from the loss of productivity, especially in patients with disabilities, this study was conducted to determine the impact of the burden on the disabled patients due to the loss of productivity.

2 METHODS

This study used the descriptive research method within a literature study design. A literature study is a method of research done by collecting data from various sources related to the topic of the research. This research data comes from journals, and other scientific articles which are then analysed further.

3 RESULTS

3.1 Disability and Burden of Disability

Disability in Kamus Besar Bahasa Indonesia includes 1) deficiencies that cause the value or quality to be not as good or to be less than perfect (contained in body, mind, or morals); 2) blisters [damage, stains] that cause the condition to be less good (less perfect); 3) blemish, disgrace; 4) not (less) perfect.^[8] It can be inferred that disability is a condition that manifests as a physical or mental disorder that can interfere with a person when it comes to performing their day-to-day activities normally. Disability is one factor that can affect one's productivity. People with disabilities will have a lower productivity value compared to someone who is not disabled.

Cigarettes are one of the risk factors of various diseases that can cause disability, and also death. The form of disability caused by cigarettes is mostly in the form of physical disability. Disability caused by cigarettes does not appear directly but as an effect of the health problems that arise due to the consumption of cigarettes in the long term. According to the CDC (the Center for Disease Control and Prevention), cigarettes harm organs in the body. Smoking habits have been shown to be associated with approximately 25 different types of disease in various organs of the human body, such as: mouth cancer, oesophageal cancer, cancer of the pharynx and/or larynx, lung cancer, pancreatic cancer, bladder cancer and vascular disease. Smoking habits are known to also affect the eyes and the reproductive system, so the risk of disability in smokers will be higher.

Disease caused by cigarettes causes a person to be unable to work and increases the cost to be paid for treatment. When in a sick condition, the person will lose productivity so that their needs become unfulfilled. The disruption of health creates a lot of burdens, including the burden of costs to be borne by the patient due to medical costs to be incurred.

People with disabilities usually have a low economic condition because they cannot work and this can be a psychological burden for the sufferer. Psychological burden has a huge impact on the development of a person. A person can lose motivation because they feel that they cannot produce something to meet their needs and to achieve their life goals.

Table 1: Total Medical Costs of Tobacco Related Diseases, Indonesia 2013

Disease	Total cases	Cost per episode	Total cost (Rp)
Low Birth Weight babies	216.050	6.185.362	1.336.347.460.100
Tumor of Mouth and Throat	6.670	3.733.141	24.900.050.470
Neoplasm of Esophagus	1.710	3.733.141	6.383.671.110
Neoplasm of Stomach	10.440	3.733.141	38.973.992.040
Neoplasm of Liver	13.400	3.733.141	50.024.089.400
Neoplasm of Pancreas	2.910	3.733.141	10.863.440
Neoplasm of Lung, Bronchus and Trachea	54.300	3.733.141	202.709.556.300
Neoplasm of Cervix	28.940	3.733.141	108.037.100.540
Neoplasm of Ovary	7.690	3.733.141	28.707.854.290
Neoplasm of Gall Bladder	10.160	3.733.141	1.106.933.657.050
Coronary Heart Disease	183.950	6.017.579	1.118.707.241.880
Cerebrovascular Disease/Stroke	144.780	7.726.946	1.118.707.241.880
Chronic Obstructive Pulmonary Disease	248.310	4.551.951	1.294.165.188.810
Total			5.352.829.437.990

Source: www.chepps.or.id (CSO Workshop Minister of Health RI: Cigarettes Prices : The Dilemma of Development & Quality of Life, Jakarta 2016)

3.2 Productivity

According to Kamus Besar Bahasa in Indonesia, productivity is the ability to produce something, also known as production power, or *keproduktifan*. It can be concluded that it is due to the productivity of a person to produce something to the maximum. Productivity is a description of a person's health condition; if the body is not in a healthy condition then productivity cannot be achieved to the maximum level. Disability is a condition that prevents a person from becoming more productive. If the disability is sufficiently severe, then one can become entirely unproductive. People who are sick from smoking are the ones who lose their productivity. Cigarettes cause their working time to be lost due to care, and not only that, but some of them cannot return to work because of the organs that cannot function again. Most sick smokers are those in the productive age group, and so the biggest disadvantage caused by cigarettes is the factor of productivity.

Table 2: Total DALYs Loss due to Tobacco, by Disease and Sex, Indonesia

Disease	Total DALYs Loss	Male	Female
Low Birth Weight babies	2.274.200	1.249.520	1.024.680
Tumor of Mouth and Throat	828.340	418.300	410.040
Neoplasm of Esophagus	152.998	89.888	63.110
Neoplasm of Stomach	65.500	34.990	30.510
Neoplasm of Liver	148.360	75.260	73.090
Neoplasm of Pancreas	49.560	30.100	19.460
Neoplasm of Lung, Bronchus and Trachea	403,16	383,62	19,54
Neoplasm of Cervix	312.555	--	312.555
Neoplasm of Ovary	175.513	--	175.513
Neoplasm of Gall Bladder	218.511	129.013	89.497
Coronary Heart Disease	204.349	127.612	76.736
Cerebrovascular Disease/Stroke	847.740	777.085	783.031
Chronic	901.744	669.943	231.801

Disease	Total DALYs Loss	Male	Female
Obstructive Pulmonary Disease			
Total	6,179,773	3,602,095	3,290,043

Source: www.cheps.or.id (CSO Workshop Ministry of Health RI: Cigarettes Prices : The Dilemma of Development & Quality of Life, Jakarta 2016)

3.3 The impact of the burden on productivity

Disability is a condition that can cause a burden on the sufferer. The burden can be psychological and social. The psychological burden has a greater impact on a person with disabilities because it may affect their development and desire to achieve their life goals. Because of the limited circumstances, a person may lose their motivation to produce something that is beneficial to himself and others. Motivation is a state in which a person encourages the desire of other individuals to perform certain activities to achieve their goals. Motivation is an important aspect of life, because motivation is an impulse that is in a person before he or she does something.

The psychological burden of a disabled patient with regards to one's motivation to meet their needs and to achieve their goals is difficult to do. Based on the theory of the motivation process (Hasibuan), a disabled person is inhibited in being able to do something oriented to their life's purpose as the above cycle can not run properly due to the disability. Therefore, people with disabilities have lower motivation. Various studies show that motivation has an effect on productivity, so low motivation leads to decreased productivity in patients with disabilities.

4 DISCUSSION

Based on table 1 the medical costs incurred for tobacco-related illnesses have a substantial number of cases with most diseases are chronic obstructive pulmonary disease as many as 284,310 cases, while the largest medical costs to be spent are for low birth weight babies and chronic obstructive pulmonary disease. Based on these data it is known that all tobacco-related diseases cause a substantial burden of medical expenses that prove that tobacco is at risk for increasing poverty rates, especially for those who

have been ill because of tobacco consumption. Based on table 2 total DALYs Loss due to tobacco is high enough when viewed based on productivity disease is the highest loss due to low birth weight babies, whereas if viewed by sex the productivity loss is greater in male gender. From the data it is known that men lose more productivity, while most men are workers. Especially those who cannot return to work will be burdened with sickness or disability.

The psychological burden is a burden that must be borne by the disabled patients. The psychological burden is related to one's motivation to produce something useful. The limitations experienced by disabled patients make people with disabilities have low motivation when it comes to meeting the needs of life and achieving its goals. Low motivation is directly related to productivity, and with low motivation, disabled people will increasingly lose productivity and cause greater economic losses due to the burden that they transfer to others.

5 CONCLUSIONS

Tobacco-related illnesses cause considerable medical costs to the sufferer and the high value of productivity lost due to illness or disability. Moreover disability poses also a psychological burden associated with the motivation to meet their needs. In disabled patients, these limitations are the cause of low motivation and affect their productivity, and productivity subsequently decreases. The losses incurred due to the productivity lost will be a burden for others.

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