

THE EFFECT OF EDUCATIONAL CONSUMPTION OF CAFFEINE ON ENERGY DRINK PRODUCTS ON SLEEP QUALITY OF A DRIVER

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Abstract

The market share of energy drink beverages is very wide, this can be seen from the increasing growth since 1997 which includes students, young people, people who are traveling, exercising, and also drivers who travel long distances that require caffeine intake which is more. Determine the effect of caffeine consumption education on the sleep quality of a driver. The method used in this study is true experimental with a pretest and posttest group design approach. Sampling by purposive sampling, the sample of this study were 30 respondents. The data was obtained by using a questionnaire which was shared with the google form media. Based on the research conducted, it was found that the provision of energy drink education affects the sleep quality of a driver.

Keywords: education, energy drinks, sleep quality

Introduction

The market share of energy drink products is very wide, this can be seen from the increasing growth since 1997 which includes students, young people, people who are traveling, exercising, and also drivers who travel long distances that require caffeine intake. which is more.

Energy drinks are drinks that contain caffeine, taurine, vitamin B complex, herbal extracts and sugar or sweeteners that can provide the desired effect by the user, such as increasing energy, concentration, alertness, maintaining physical strength, reducing sleepiness and making thinking power clearer. Seifert, 2011).

Energy drinks are classified as food supplements or food additives. This product is included in the group of "border products" (grey area) between drugs and food-beverages. Food supplements are products that contain one or more substances that are nutritional or medicinal. Although it includes food, energy drink products contain substances commonly found in medicines with levels below the drug. While this product has medicinal properties, the rules for use do not refer to drugs. Therefore, the inclusion on the label not like drugs (Yuliarti, 2008:1). The content of this energy drink includes vitamins B2, B3, B5, B6, aspartame, caffeine, taurine.

Caffeine is widely found in beverages, drugs, supplements and candy. These products are the most widely used in the world today (Snel & Lorist, 2011). Caffeine is available in the market in large quantities and is also widely accepted, and is socially acceptable, even among children and adolescents. It is believed to affect performance and mental state by reducing or eliminating sleep (James & Keane, 2007; James & Rogers, 2005).

Sleep is an important process for a human being, during sleep the recovery process will occur. This process aims to restore a person's state as before, when the body experiences fatigue. The disturbed recovery process will cause the body's organs to not be able to work optimally, resulting in fatigue and decreased concentration (Amalia, 2013). Sleep quality is a person's satisfaction with his sleep, so it does not show feelings of tiredness, restlessness, black sluggishness around the eyes, sore eyes, headaches, frequent yawning or drowsiness (Hidayat, 2016). Sleep quality includes 2 aspects, namely qualitative aspects such as length of sleep, time to sleep, frequency of awakening during sleep, and subjective aspects such as depth and satisfaction of sleep (Buysse, 1989). Perceptions of sleep quality vary widely. Sleep quality is also related to ease of awakening, fatigue, sense of balance and coordination when awakening from sleep (Harvey et al., 2008).

Short sleep duration of less than 7 hours can increase the risk of death in a person and has been reported as one of the important factors that can harm the endocrine system, cardiovascular, immune system, nervous system such as obesity, diabetes, cardiovascular disease, hypertension, mood disorders, anxiety. overuse and drug abuse (Johnson et al., 2008; Knutson et al., 2009; Suchecki et al., 2008). Inappropriate amount of sleep and rest a person's ability to concentrate, make decisions, and follow daily activities will decrease and will be quick to anger (Potter, 2009). Regular and good sleep patterns will have a good effect on one's health (Guyton, 2012)

Based on the results of a preliminary study conducted by researchers in June 2021 involving 8 respondents. It was found that 8 out of 8 drivers (100%) had all consumed energy drinks, 5 of 8 drivers (62.5%) admitted that they had difficulty sleeping after consuming energy drinks. 2 out of 8 drivers (25%) experienced side effects such as insomnia, nausea and vomiting after consuming energy drinks and 8 out of 8 drivers (100%) admitted that they only knew coffee contains caffeine

One of the efforts we can do is to improve the quality of sleep by providing good knowledge. Good knowledge can be obtained through education. The results of research conducted by Sinta Fresia in 2016 regarding the provision of video-based education on treatment adherence to HIV/AIDS patients showed significant results, namely an increase in patient compliance after providing education. Based on the above problems, researchers are interested in conducting research on the effect of energy drink

consumption education on the sleep quality of drivers, with the hope that providing education can increase knowledge, with good knowledge it can improve sleep quality.

Materials and Methods

The method used in this study is true experimental with a pretest and posttest group design approach. Sampling by purposive sampling, the sample of this study were 30 respondents. The data was obtained by using a questionnaire which was shared with the google form media.

Results and Discussion

This study involved 30 respondents who worked as a driver at Terminal Pal 6 Banjarmasin. The response had met the inclusion criteria in this study. The provision of energy drink education whether it affects sleep quality is an indicator assessed in this study. In this study the researchers divided into 2 groups of respondents, namely the intervention group and the control group. In the intervention group after the pretest, education was immediately given and waited for 1 week and then a questionnaire was given for the post test, while the control group after being given the pretest was then waited for 1 week and was immediately given a questionnaire for the post test. The sleep quality of respondents before being given education who had good sleep quality was 9 respondents (30%) and 21 people had poor sleep quality. After providing education on the quality of sleep, the respondents became 18 people (60%) who had good sleep quality and 12 people (40%) who still had poor sleep quality. The statistical results of respondents experiencing an increase in sleep quality can be seen in table 4.2 which initially had good sleep quality only 2 people (13.33%) after being given education increased to 12 people (80%) who had good sleep quality, this test also supported by the results of the ordinal regression of $0.023 < 0.05$ which indicates that the provision of education can have a significant effect on the respondent's sleep after being given education.

Leaflet media can be easily carried anywhere to disseminate information to others compared to other media such as powerpoint. Thus, the purpose of this education can be broader, not only for participants who take part in the research but can also expand their families and even other communities. The change in respondent behavior before and before providing education shows that the strategy of providing energy drink education using leaflet media on the sleep quality of a driver can be said to be effective.

Based on the discussion that has been described, presenting energy drink education on sleep quality with leaflet media can improve the sleep quality of a driver. Providing education using leaflets can improve sleep quality, this is in line with Green's approach that an educational approach can change a person's behavior including knowledge, where the intervention provided is a health education to change

a person's behavior. Media leaflets can be used because they can provide information easily so that it can be widely accepted

The provision of health education should be given an explanation that is easily understood by the public. In this case, health education or health education is not only used in communication but is also used in media for the dissemination of health information

Conclusion

Based on the research conducted, it was found that the provision of energy drink education affects the sleep quality of a driver

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References

- Amalia Safitrie. (2013). Studi komparatif Kualitas Tidur Perawat Shift dan Non Shift Di Unit Rawat Inap dan Rawat Jalan. Jawa Tengah : Prosiding Konferensi Nasional PPNI. 2013
- Chawla, J., Suleman, A., (2011). Neurologic Effects of Caffeine. Medscape Reference. Available from: <http://emedicine.medscape.com/article/1182710>.
- Glade, Michael J. (2010). Caffeine-Not Just a Stimulant. Nutrition, Vol. 26 (10).
- Guyton, A. C., Hall, J. E., (2014). Buku Ajar Fisiologi Kedokteran. Edisi 12. Jakarta : EGC, 1022
- Harvey, R. A. dan Champe, P.C., (2013), Farmakologi Ulasan Bergambar, Edisi 4
- Snel J, Lorist MM (2011). Effects of caffeine on sleep and cognition. Progress in Brain Research, 190: 105–17.
- Ulumuddin, B.A. (2011). Hubungan Tingkat Stres dengan Kejadian Insomnia Pada Mahasiswa Program Studi Ilmu Keperawatan Universitas Diponegoro. Jurnal : Fakultas Kedokteran Universitas Diponegoro