The Effect of Hot Chocolate Drinks to Decrease Anxiety toward Mother in First Stage of Labor

by Sri Banun

The Effect of Hot Chocolate Drinks to Decrease Anxiety toward Mother in First Stage of Labor

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A B S T R A C T

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Background: In this modern era, consuming chocolate is a favorite for women. Several studies have examined the chemical content and antioxidant activity of cocoa beans. Cocoa beans are processed into various foods such as dark chocolate and milk chocolate. The processing of cocoa beans causes a different chemical content of the processed products. This study aims to determine the composition of chemical compounds contained in dark chocolate and milk chocolate. In addition, this study aims to identify the effect of giving black chocolate and milk chocolate to maternal anxiety level in Midwife Clinic Umi Salamah, Amd.Keb, Jombang, East Java, Indonesia.
Methods: This study utilized quasi experimental design with approach pre and post-test to analyze the effect of hot chocolate drinks (dark chocolate and milk chocolate) to decrease anxiety toward mother in first stage of labor.
Results: The results of phytochemical screening on dark chocolate and milk chocolate showed that dark chocolate consists of polyphenolic compounds, flavonoids, tannins, saponins and alkaloids higher than milk chocolate.

I. INTRODUCTION

Chocolate is one of the plants that have potential as an anti depressant. *Aztec* and *Incan* tribes consume dark chocolate to reduce stress. This dark chocolate contains many polyphenolic compounds and flavonoids. Both of these compounds have high antioxidant activity and can decrease oxidation of *low-density lipoprotein* (LDL) to prevent blockage of blood vessel walls. A study at the University of California mentions that cocoa beans can prevent the occurrence of stroke. This is because the cocoa beans can prevent the occurrence of a blood clot (Cooper, 2008).

Technological developments increased rapidly research on the benefits of chemical compounds black chocolate and milk chocolate. First stage in this research, phytochemical screening to analyze chemical compounds. Methods of phytochemical screening was a simple method used to determine the qualitative composition of chemical compounds present in cocoa beans or processed cocoa.

The more advanced field of science and louder demands of life then humans will be faced with various challenges in the face of life and various challenges such as anxiety. Anxiety itself is an emotional reaction to the assessment of stimulus that exists in the life problematics. Psychological disorder almost never occurs due to one factor but occurs due to a series of complex factors caused by organic or somatic factors, psychological factors and personality structure, and environmental and social factors (Kartono, 2003).

One of the incidents that increase the anxiety in women is during a delivery process. Normal delivery is a birth process of a fetus with mother's own power, without the aid of tools and do not hurt mothers and babies that generally lasts less than 24 hours (Sri Hari, 2009).

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From the preliminary study conducted on 10 pregnant women with third trimester in Midwife Clinic Umi Salamah, Amd.Keb, Jombang, East Java, Indonesia. Observation with questionnaires gained 70% knowledge about a delivery process with anxiety levels facing childbirth and not ready for labor, then 40% of multigravida mothers who do not experience fear and anxiety in the face of birth.

One therapy to reduce the maternal anxiety level in first stage of labor is by making the mood of the mother to be relaxed. The problem that arises in the development of synthesis drug for anti-depression is the absence of an animal model test that has anxiety resembling in humans. This causes a difference in determining effectiveness of antidepressant drugs. As an alternative, developed a therapeutic research using natural ingredients that have potential as antidepressants that is chocolate. Therefore, researchers interested in conducting research on: "The Effect of Hot Chocolate Drinks to Decrease Anxiety toward Mother in First Stage of Labor".
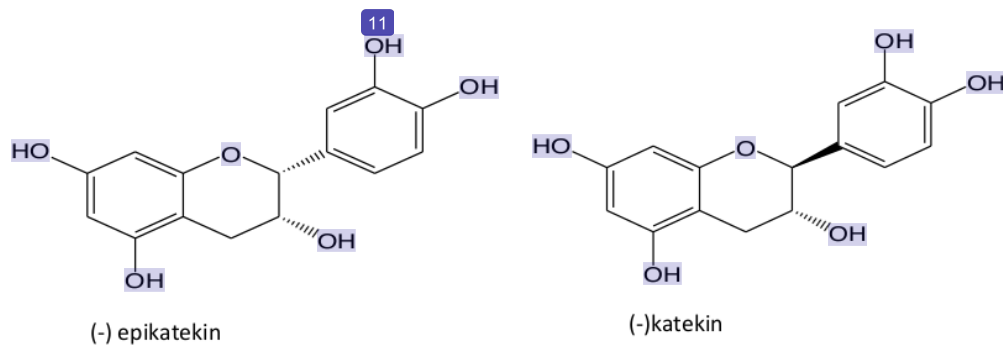
II. LITERACY

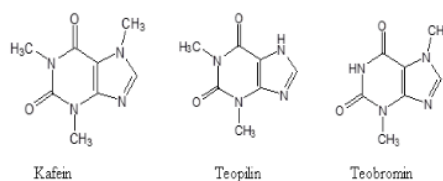*A.   Chemical Content of Dark Chocolate and Milk Chocolate*

Cocoa is a chocolate-producing plant originating from tropical forests in South America. Indonesia is a cocoa supplier country that ranks third in the export of plantation sector. Cocoa is processed food from cocoa beans first consumed by the people of ancient Mesoamerica. Cocoa beans is the main ingredient of making dark chocolate (black chocolate). Dark chocolate made from cocoa paste with added a little sugar. Another processed seed chocolate is milk chocolate (chocolate milk) made from cocoa paste, fat cocoa, milk powder and sugar.

Table 1. Chemical composition of dry cocoa beans

Component	Percentage (%)
Fat	57
Total Ash	4.2
Water	3.2
Theobromine	1.3
Caffeine	0.7
Fiber rude	3.2
Starch	9

a.

b. Source: Pearson (1981) in Wahyudi *et al* (2008)

(-) epikatekin   (-)katekin

Kafein   Teopilin   Teobromin

B.   *Phytochemical Test*

Cocoa is a plant that produced Phytochemical Test that was often used: polyphenols, flavonoids, tannins, saponins, and alkaloids.

Flavonoids

Flavonoids are commonly present in plants, bound to gums as glycosides and aglycons (Harbone, 1987). Most flavonoid compounds are found in the form of glycosides, where the flavonoid unit is attached to a sugar and an alcohol bonding to each other through a glycoside bond. Flavonoids can be found as mono-, di-, or triglycerides in which one, two, or three hydroxyl groups in a flavonoid molecule are bound by sugar.

Tanin

Tanin is a water-soluble polyphenol compound, glycerol, ethanol, hydroalcoholic, and propylene glycol but is not soluble in benzene, chloroform, ether, petroleum ether and carbon disulfide (Harborne, 1987). Tannins are widely present in vascular plants, in angiosperms found especially in wood tissue. According to its constituents it can react with proteins to form a water-soluble copolymer. In the tannin industry is a plant-derived compound capable of converting raw animal skin into ready-made skin because of its ability to cross-cross protein. In plants tannins are separated from proteins and cytoplasmic enzymes. Tanin has a feeling of splinting (Harbone, 1987).

Saponin

Saponin is an active compound and is like soap (Latin "sapo" means soap), based on its ability to form a foam. Some saponins work as antimicrobials. Saponin when hydrolyzed will produce an aglycone called sapogenin. (Harbone, 1987).

Alkaloids

Alkaloids are the largest group of secondary plant substances around 5500 have been known. Generally, alkaloids include alkaloid compounds containing one or more nitrogen atoms. In the free form alkaloids are weak bases that are difficult to dissolve in water but are easily soluble in organic solvents. For identification usually use reagent solution which can form a precipitate with alkaloid for example reagent mayer, dragendroff and others. Alkaloids are generally solid, crystal-shaped compounds only slightly liquid (eg, nicotinia), colorless and have a bitter taste. Alkaloids are compounds that have very prominent biological activity and are widely used in medicine (Harborne, 1987).

Phytochemical Test Dark Chocolate and Milk Chocolate

Phytochemical testing was performed as first step in this study. Differences in the composition of chemical compounds in dark chocolate and milk chocolate result in a difference in properties given chocolate as an antidepressant. Figure 1 shows the results of dark chocolate phytochemical test. While figure 2 shows the results of milk chocolate phytochemical test.

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Figure 1. Dark chocolate phytochemical test results

Figure 2. Milk chocolate phytochemical test results

Testing content phytochemicals this do with on qualitative . Chocolate black and chocolate milk dissolved into the aquades . Then analyzed content phytochemicals with a method and solvent standard. Compounds phytochemicals were analyzed have an important role in connection with bioactivity from chocolate black and chocolate milk . Table 2 shows results screening phytochemicals from dark chocolate and chocolate milk with solvent aquades.

Table 2. Results screening phytochemicals dark chocolate and milk chocolate

Test	Dark Chocolate	Milk Chocolate
Polyphenols	+++	+
Tanin	+++	+
Saponin	-	-
Alkaloids	+	++
Flavonoids	+++	++

Information: - no detected; + detected

C.   *Concept of Labor*

Labor is the process of opening and thinning cervix, and fetus descends into the birth canal. Partus is a process of expending the results of conception that can live from the utery through the vagina to the world (Sarwono, 2007). Birthing is the process by which the baby, placenta and membranes out of the mother's utery.

D.   *Concept of Anxiety*

Worry or Anxiety is an emotional experience that lasts briefly and is a natural response, when the individual is facing the pressures or events that take his or her life.

The originator of a stressor, could originate from internal or external factor. Could group into categories: (1) Threat to physical integrity such as disability physiological will happen or decline ability to doing activity life every day. (2) Threat to self-system could endanger identity, price-self, and function integrated social on individuals. Assessment system used that is covers assessment each point covering 14 points with criteria assessment:

0 : There are no symptoms
1 : One symptom are there
2 : Half symptoms are there
3 : More from half symptoms are there
4 : All symptoms are there

From the description score, each group of symptoms could is known level worry someone namely:

Scores <6   : There is no anxiety
Score 6 – 14   : Low anxiety
Scores 15 – 27   : Medium anxiety
Scores > 27   : Weight anxiety

III.   METHOD

This study utilized quasi experimental design with approach pre and post-test to analyze the effect of hot chocolate drinks (dark chocolate and milk chocolate) to decrease anxiety toward mother in first stage of labor.

IV.   RESULT

a.   Concept of first stage of labor

According to Rustam Muchtar, the usual Partus (normal) is also called spontaneous partus is the process of birth of a baby in LBK with the mother's own power without the aid of tools do not hurt mothers and babies that generally lasts less than 24 hours.

b.   Anxiety toward mother in first stage of labor

Labor is mixed feelings between happy and anxiety about what will experience during the delivery process. Anxiety level that own could appear on a waiting moment of date birth besides that shadow about scary stuff moment for labor although what to imagine not yet certain happened, although that is a natural situation but could induce drastic changes, not only physical but psychological from mother birth.

For mother could pass the process with a good psychological and healthy, so team must create comfortable feeling and support, needed creative effort and fun during labor, such as with massage, music, aromatherapy, imagination guided or whatever to make it relax and will lower anxiety and time required during labor be feels not long.

c.   The Effect of Hot Chocolate Drinks to Decrease Anxiety toward Mother in First Stage of Labor

To analyze the effect of hot chocolate drinks to decrease anxiety toward mother in first stage of labor used statistics analysis Pearson Correlation. Results of Paired Pearson Correlation showed that there were significant differences of anxiety level before and after an intervention of hot dark chocolate drinks. SPSS version 16.00 showed sig.value (2 tailed): 0.00111, that's mean 0.001 < 0.05 there were significant correlation.

V. ACKNOWLEDGMENT

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