

**PARENT'S DECISION MAKING TO COLLECT STEM  
CELLS FROM UMBILICAL CORD BLOOD**



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Thematic paper  
entitled  
**PARENT'S DECISION MAKING TO COLLECT STEM  
CELLS FROM UMBILICAL CORD BLOOD**

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Pimrapas Vithayapanyanon



**THE TOP PRIORITY OF FACTORS AFFECTING PARENT'S DECISION TO COLLECT STEM CELL FROM UMBILICAL CORD BLOOD**

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**ABSTRACT**

Due to a high competitive market in cord blood banking industry, cord blood banks are more concern about customer's decision making. Therefore, the purpose of this research paper is to understand the factors affecting parent's decision to collect stem cell form umbilical cord blood and also to investigate their perception and expectation.

The research used a qualitative approach. Data was collected with tape recorded. The interview was conducted from 10 pregnancies in the age group of 25-35 years old at the Private Hospital.

The study revealed that culture and marketing elements of customers have a strong association with customer buying decision. Family, price and promotion influence were considered as the important factors to parent's decision making to collect stem cell form umbilical cord blood.

**KEY WORDS:** Stem Cells, Customer's decision making, Cultural influence, Marketing Influence

46 pages

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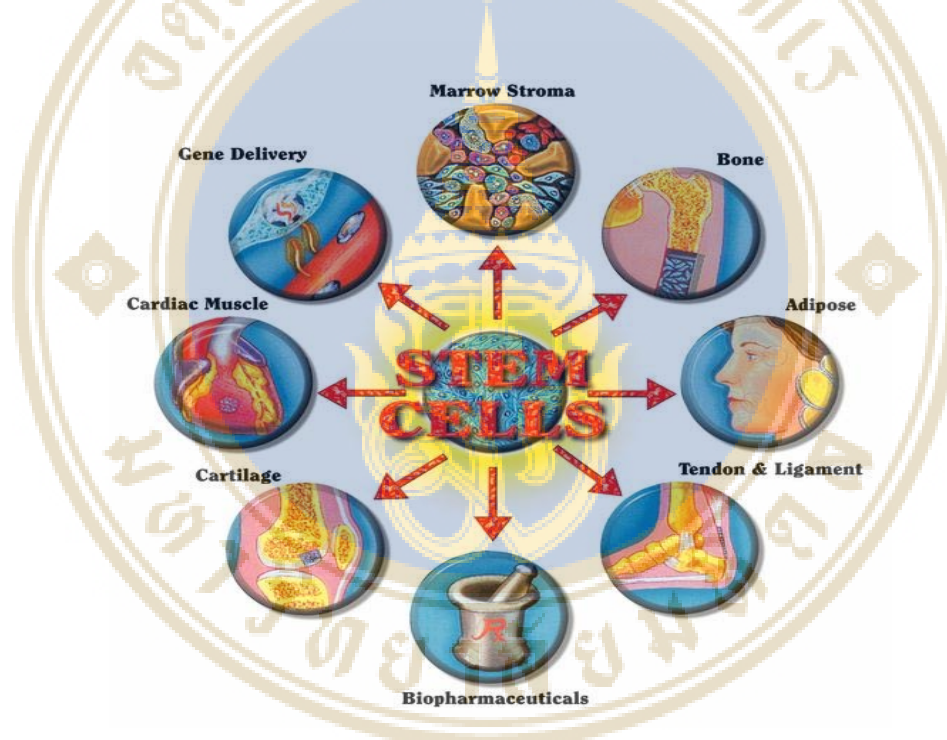
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## CHAPTER I

### INTRODUCTION

Many cord blood banks were established since scientists discovered that cord blood contains stem cells. Stem cells are original cells that have the potential to become any type of cells in the body. Figure 1 represent ability of stem cells to self-renew while maintaining the potential to develop into others type of cells. Stem cells can become cells of the blood, heart, bones, skin, muscles, brain etc. (Mandal, 2013)



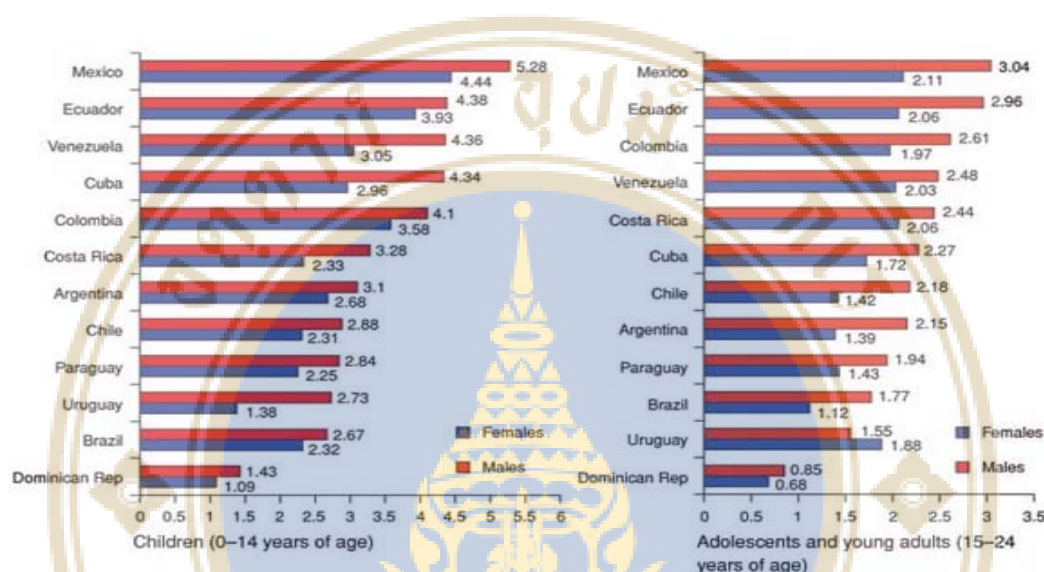
**Figure 1.1 Represent changing stem cells itself into different kind of cells**  
**Source:**[http://www.odec.ca/projects/2004/mcgo4s0/public\\_html/t5/cellrepair.html](http://www.odec.ca/projects/2004/mcgo4s0/public_html/t5/cellrepair.html)

Death rate from threatening diseases are continuously increase because many patients are facing with the threatening disease especially blood disease and immune system which hard to be cured without sufficient volume of stem cells such as Leukemia, Thalassemia, Lymphoma, Sickle Cell Anemia, Myelomas, Immune

Deficiency Diseases etc. Table 1 represent leukemia mortality rates truncated to 0-14 years of age and 15-24 years of age

**Table 1.1 Represent Leukemia mortality rates truncated to 0-14 years of age and 15-24 years of age , by gender in 12 countries of Latin America, with the available data from 2000-2004**

**Source: [http://www.scielosp.org/scielo.php?script=sci\\_arttext&pid=S1020-49892011000200004](http://www.scielosp.org/scielo.php?script=sci_arttext&pid=S1020-49892011000200004)**



Medical advancement today came up with stem cells from umbilical cord blood. When a mother gives birth to a baby, a valuable source of quality stem cells can be found in the cord blood collected from the umbilical cord and stored for later use in the treatment of many life threatening disease. In the past, this cord was normally cut and thrown away but today this type of stem cells are widely accepted worldwide for use in the effective treatment of more than 85 diseases. (Cryoviva brochure, version: August 2013, Promoted by Indorama Ventures)

In generally, cord blood banking services have 2 types which are public service and private service. The first public cord blood bank was established at New York Blood Center and after its well developed public banking systems. Many countries included Thailand have a centralized program for family-directed which is private cord blood banking service (Ferrata Stori Foundation, 2011).

Researcher will focus only on private cord blood bank service as the result of this research will benefit directly in business term. Private cord blood bank service

is a personal choice made by both parents. The bank has its role to store cord blood with a link to identity stem cells owner, so that the family may retrieve it later if it is needed. The parents will be having custody of the cord blood until the child is an adult (Private Family Cord Blood Storage Agreement, Cryoviva, 2012) The cord blood might someday be needed when the baby got blood disease and it also could be used by a relative who is a close enough match to receive a transplant from the donor which typically is a sibling (CBR Systems, 1995-2014) (<http://www.cordblood.com/best-cord-blood-bank/faqs>)

### **1.1 Problem Statement**

Private cord blood bank service is classified in competitive market because of limit pregnancy and less supporting from hospital's personnel. Firms should understand customer expectation and develop its service process in order to gain share from competitors and encourage more sales volume. Private hospital is the main target to this business as it has many potential customers but sales volume is small amount compared with hospital's birth rate which mean there are big gap of potential customers that cord blood banking service can obtain.

### **1.2 Research objective**

- To address the factors influenced parent's decision to collect stem cells from umbilical cord blood for their baby
- To study what parent's expectation on collecting stem cells from umbilical cord blood service are

### **1.3 Expected Benefit**

This research will benefit directly to both cord blood bank and customers. The result of this research can be use as marketing determiner in order to create the appropriate campaign that match to customer expectation. The customers will have a life saving protection against disease in an event that such a disease threatens their child or a sibling. Increasing in cord blood bank sales volume will help decrease death rate at the same time.

### **1.4 Research Question**

- What are the factors that influenced parent's decision to collect stem cells from umbilical cord?
- What is their expectation on collecting stem cells from umbilical cord blood service?

### **1.5 Research Scope**

The research focus on mother who give precedence to family healthy and have prenatal care at Women's center in Bamrungrad Hospital because many pregnancies in this hospital already got basic information from stem cells specialist. It would be easy for them to fulfill researcher's questionnaire

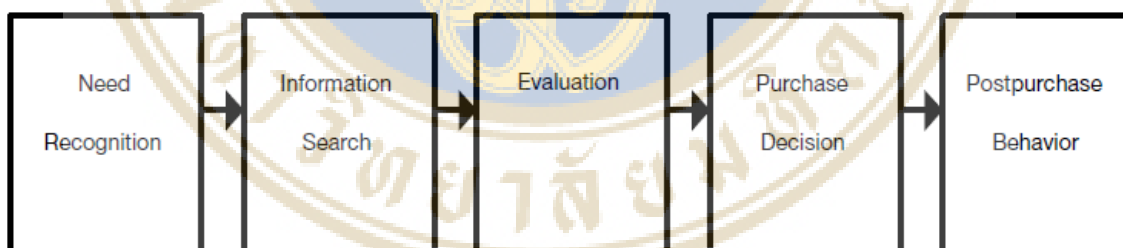
## CHAPTER II

### LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

There are many research and clinical trial about stem cells after scientists discovered that stem cells can be used as life's spare part in threatening diseases. As stem cells is new thing in medical profession. The existing information and knowledge are not directly involved to the factors that influenced parent's decision making to collect stem cells from baby's umbilical cord. However, relevant articles in customer's decision area are summarized below.

#### 2.1 Customer Buying Process

Several studies indicate customers buying process through the five steps of customer buying decision. This model is widely used as marketer tool in order to gain understanding about customer and their behavior (Charles Comegys, Mika Hannula, Jaani Vaisanen, 2006).

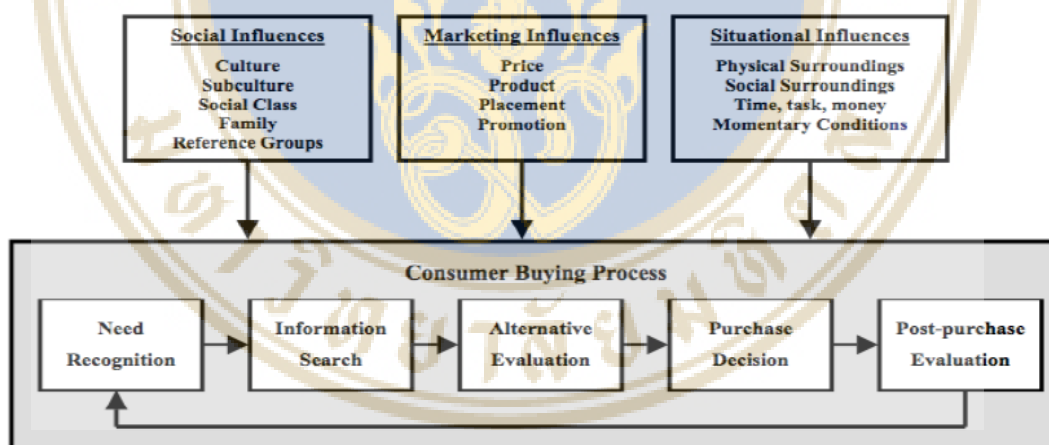


**Figure2.1 Five stages of customer buying decision process model**  
**Source: (Charles Comegys, Mika Hannula, Jaani Vaisanen, 2006)**

Figure2.1 represent five stage of customer buying decision process model which first stage is start with need recognition. This need can be influenced by demographic factors including age, gender, income, education background etc. The next stage is information search, customers will pay attention to advertisement, have conversation about product and search for more information about product. At the

evaluation of alternatives stage, customers tend to have their own rules or attribute cut-offs for the products in their choice set. A line must be drawn as to know when to stop process of evaluation or when to make the actual purchase decision. After the evaluation stage is purchase decision, attitudes of other and unexpected situational factors may change customer's preference for a certain product that they already attended to buy. At postpurchase behavior stage, this can be divided into two subgroups which are postpurchase satisfaction and post purchase actions. Each subgroup have relationship between each other as Hellier at al. concluded that loyalty has a positive effect on brand preference and brand preference has a positive effect on repurchase intention as well (Charles Comegys, Mika Hannula, Jaani Vaisanen, 2006).

According to the five stage of customer buying process model, Churchill and Peter adapted this model by adding that this customer buying process is also shaped by social, marketing and situational influences (Churchill. Peter, 1998). Figure3 represent the customer buying process that can be shaped by social influence, marketing influence and situational influence.



**Figure2.2 Customer buying process which shaped by social, marketing and marketing influences**

Source: (Churchill. Peter, 1998)

Social factors involve geographic and sociologic influences, which its element have an effect to the consumer's behavior. How customers think, do and feel are affected by reference groups. Marketing influences, known as the 4P's (Product, Price, Place, Promotion) also have an impact on the process. Situational influences,



which can be described as the characteristics of the situation which include the physical surroundings, social surroundings, time, task, monetary conditions, and monetary moods (Jiyeon, 2003).

## **2.2 Social Influence**

### **2.2.1 Culture**

The journal of Consumer Psychology has been highlighted the important of understanding the cultural context of consumer behavior because cultural factor significantly influence customer buying decision (Maheswaran, Shavitt, 2000)

Thailand is classified in the collectivistic society. The sense of collectivism in Thailand is about the commitment to family because family is the center institution of all Thai people Hofstede, (geert-hofstede.com) It's has an effect on Thai people is attitudes to be in groups. Many people feel protected and concern about their own relationship among others. The support from groups member can help encourages Thai people to make them confident in themselves (Burn, Thongprasert, 2003)

### **2.2.2 Subculture: Individualism and Collectivism**

The theory of Individualism and Collectivism offers several insight of each type of people (Trandis, 1995) These social pattern influences customer purchasing behavior through their effect on a person's self-identity to suppress internal beliefs in order to act appropriately (Jacqueline J. Kacen, Julie Anne Lee, 2002).

Collectivism defined as a social pattern which consists of individuals who see themselves as a part of groups. People who are more collectivist are often motivated by norms and duties that imposed by the group of people such as family, co-worker, classmates etc (Trandis, 1994)

Individualism defined as a social pattern that consists of individuals who see themselves as autonomous and interdependent. People who are more individualist are motivated by their own preferences and give priority to their personal goals (Trandis, 1994)

### **2.2.3 Social Class**

Krech, Crutchfield & Ballachey in Dubois, (2000) defined social class as “a division of society made up of persons possessing certain common social characteristics which are taken to qualify them for intimate, equal status relations with one another, and which restrict their interaction with members of other social class.”

There are no common criteria to structure the social class that classified into the rich class, middle class and poor class (Ineta Zickute, 2013) because it can be determined by various aspects and criteria such as income, wealth, education, occupation, work etc (Socialiniu tyrimu institutas, 2005; Mikutaviciene, 2009; Urbanskiene, Clotley & Jakstys, 2000). However, researcher found that social class measuring is usually use Socioeconomic Status Score (Schiffman, Kanuk) which used by the United States Bureau of the Census that combines occupational status, family income and educational attainment into a single measure of social class standing and divided the class into upper class, middle class and lower class.

Recent work has confirmed that value of social class can predict the customer behavior (James H. Myers, Roger R. Stanton and Arne F. Haug, 1971) and the proportion of women who does not to discuss with others when buying product was not significantly different among 3 groups of social class (Stuart U. Rich and Subhash C. Jain, 1968) but this is not conform with Rainwater, Coleman and Handel as they said "the working class Largely depended on word-of-mouth recommendation before making major purchases"

<i>Consider it helpful with</i>	<i>Social class<sup>a</sup></i>		
	<i>Lower</i>	<i>Middle</i>	<i>Upper</i>
Friends	34%	37%	50%
Husband	13	18	24
Mother	5	5	6
Other family members	20	14	18
No one	36	39	32
Total <sup>b</sup>	108%	113%	130%
Number of cases	478	471	47

**Figure 2.3** Represent Cleveland woman discussion of shopping with others by social class

**Source:** Stuart U. Rich and Subhash C. Jain, 1968, Social class and Life Cycle as Predictors of Shopping Behavior



### **2.2.4 Family**

Family members may have different role in decision making within the family (Som Aditya Juyal and M. P. Singh, 2009). The different is regard to the product that being purchased and the stage in decision making process (Belch and Ceresino, 1985). More women are performing traditionally male dominated task and have increasing in self autonomy. The wife has more roles which influence in the decision within families (Green, Cunningham (1975). More decision are made using an egalitarian approach between husbands and wives sharing decision-making tasks (Som Aditya Juyal and M. P. Singh, 2009).

The previous studies in parent attitudes area found that parent attitudes are significant to predict the attitudes and beliefs of their offspring (Alan C. Acock, Theodore Fuller, 2001).

### **2.2.5 Reference Groups**

The reference group has supplanted the notion of group membership and it's explains group influence on individual behavior perspectives (Deutsch, Gerard 1995). Group memberships consist of a vital part of self concept because people always define their sense of themselves in term of "we" rather than "I". Reference groups can shape behavior and evaluations of many customer but many people did not act follow the majority of people in their groups as well (Bearden, Etzel, 1982)

## **2.3 Marketing influence**

Marketing is the set of variable that the firm uses to influence the target market. The elements of marketing mix are price, place, product and promotion and it is well known as 4Ps (Wolfe, Crotts, 2011; Riaz, Tanveer (n.d), Durmaz, 2011)

### **2.3.1 Price**

Price is considering to be the most significant factor that affect customer buying decision (Raiz, Tanveer (n.d); Goi, 2011, Muala, Qurneh, 2012). Customers most often think about price of products or services when they estimate its value

(Virvilaite et al, 2009) and customer also have different perception about the price of the same products or services among individuals (Nakhleh, 2012)

### **2.3.2 Product**

Product has been defined as anythings that firm offer to the customers for attention, acquisition or consumption and satisfies some want or need. It includes services, places, organizations or ideas (Raiz, Tanveer (n.d); Goi, 2011, Muala, Qurneh, 2012) Customers always want to know how the product or service will benefit them before make a decision to purchase (Cari Gornik, 2012).

### **2.3.3 Place**

The place has been defined as a set of interdependent organization that caters to the process of making a product available to the consumers (Armstrong and Kotler, 2006).

### **2.3.4 Promotion**

Promotion is selling technique that involve with marketing program communication such as sales promotion, advertising, personal selling, public relation and direct marketing. These can help customers to aware of many choices available regarding product or services. Promotion also can persuade the target market and guide the customers to take an action at a specific time (Goi , 2011, Muala and Qurneh, 2012).

## **2.4 Situational Influence**

### **2.4.1 Physical surrounding**

Individuals will react to places with two forms of behavior which are approach and avoidance (Mehrabian and Russell, 1974). Approach behavior involve with the positive behaviors such as desire to stay, explore, discuss and affiliate. Avoidance behavior involve with negative behavior such as desire not to stay, not to explore, not to discuss and not to affiliate (Mary Jo Bitner, 2001).

### 2.4.2 Social surrounding

The previous studies found that customers are more likely to believe recommendation from people they know and trust (Singha, Swearingen, 2001). Understanding social influence in customer buying decision making can help the firms improve customer relationship management and increase sales. In reality, a person's decision to buy a product is often strongly influenced by his or her friends, acquaintances and business partners, rather than strangers. (Young Ae Kim, Jaideep Srivastava, 2007).

### 2.4.3 Time, Task, Money

Normally customer will treat time and money differently. Customers perceive that time costs are discounted more than money costs because of a different in how the product changes from the present to the future (Soman, 1998).

Customers always need to determine their suitable time when making a purchase. Customers may delay purchase or suddenly make a purchase depend on the possibility of regret in that decision making (Itamar Simonson, 1991) because people hope to avoid consequences of made the wrong decision (Bell, David E., 1982).

When people have different alternatives or different product and asked to choose between them, they tend to looking for the attractive options that compatible with the task of choosing (Shafir 1993).

Researcher also found previous studies which shown the customer buying role that impact by member of the family. Figure5 represent the study that pertaining to different roles are Initiator, Influencer, Decider and Actual Buyer which each role has different stage according to the customer buying decision model (D P S Verma and Sheetal Kapoor, 2003).

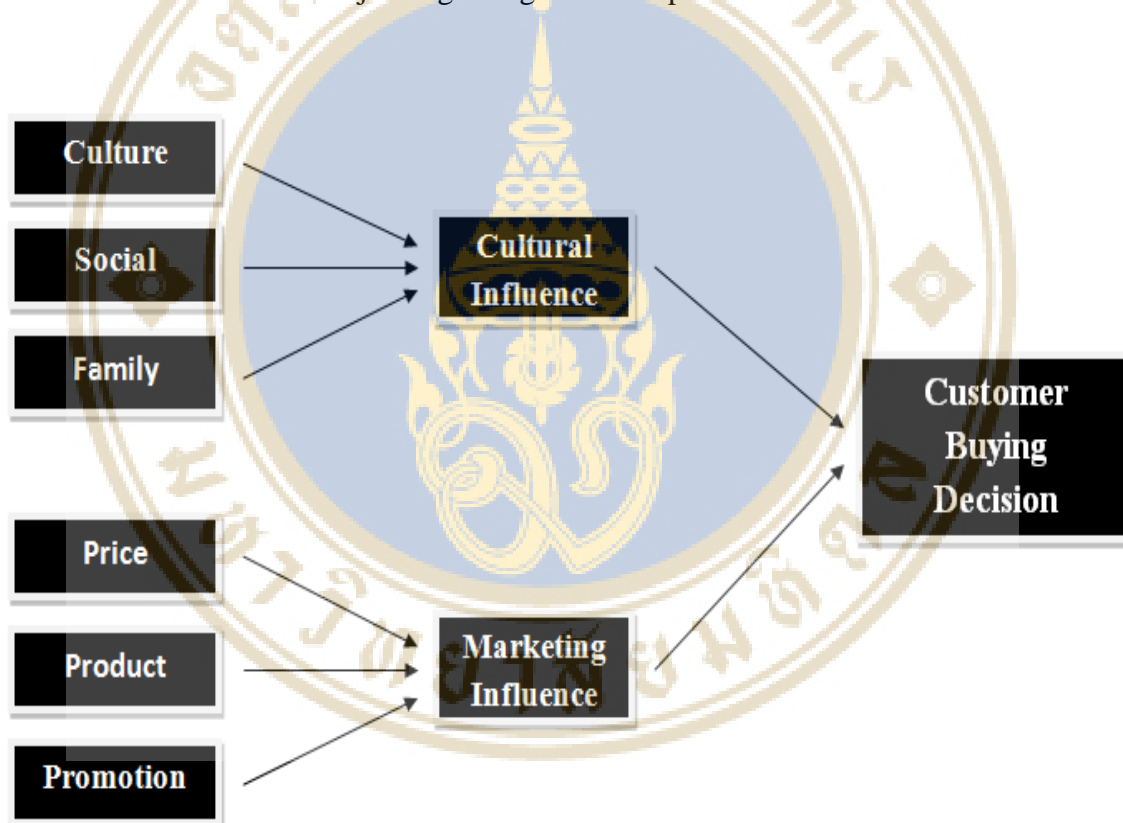
The idea of the following model is that any member of the family who can express the need to have product is classified as Initiator. Influencer is a person whose views carry some weight in the final decision. Decider or Buyer is the one who has the final authority to purchase the product. User is end user of the product.

Need Recognition	→ Information Search	→ Evaluation of Alternatives	→ Purchase Decision	→ Post-purchase Behaviour
INITIATORS	INFLUENCERS		DECIDERS, BUYERS	USERS

**Figure 2.4 Customer buying role in the five stage of customer buying process**  
**Source: (D P S Verma and Sheetal Kapoor, 2003)**

## 2.5 Framework

This framework was adapted from a model of consumer buying process of Churchill. Peter, 1998 (Figure 3). Researcher modified to make it more appropriate for the case of factors influence parent's decision to collect stem cells from umbilical cord by remove unrelated subjects which are the factor of situational influence and place because context of these subject regarding to the hospital.



## 2.6 Research Hypothesis

After reviewing the various models from several studies in the literature review (Figure 2-4). The following hypothesis have been developed.

**H1:** Social elements of consumers have a strong association with customer buying decision.

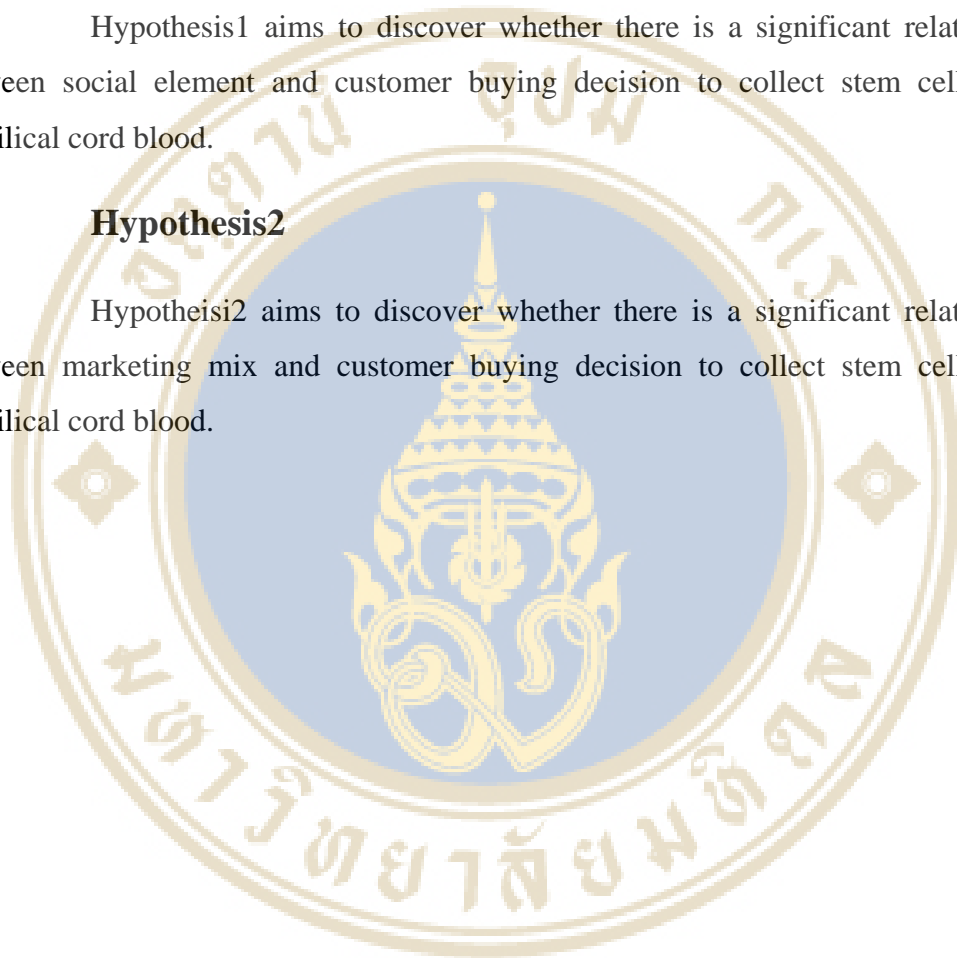
**H2:** Price, Product and promotion have a strong association with customer buying decision.

### **Hypothesis1**

Hypothesis1 aims to discover whether there is a significant relationship between social element and customer buying decision to collect stem cells from umbilical cord blood.

### **Hypothesis2**

Hypothesis2 aims to discover whether there is a significant relationship between marketing mix and customer buying decision to collect stem cells from umbilical cord blood.



## **CHAPTER III**

### **RESEARCH METHODOLOGY**

In this chapter, the methodology is outlined. The research approach and data collection of this study are described.

#### **3.1 Research Approach**

There are 2 types of research approach which are qualitative research and quantitative research. Qualitative Research is research whose findings are not subject to quantification or quantitative analysis. This research approach is typically characterized by small sample size. Quantitative Research is research that uses mathematical analysis and has various amounts of information from each respondent (Carl McDaniel, JR. Roger Gates, Marketing Research, 2013).

Researchers choose the qualitative approach to conduct the data in this case because the methodological approach is oriented to understand the attitudes and feelings of customers in order to examine the factors that influence them to collect stem cells from umbilical cord blood. Qualitative methodology is suitable to get the information from all perspectives of pregnancy and also easy for researchers to control the conversation in its scope area and timing. Researchers will use the open-end question which allows interviewees to explore the answer in details from their own perspectives.

#### **3.2 Data Collection**

The data for this study will be collected from 10 pregnancies from the mother who have prenatal care at private Hospital because most of the sample targeted have been received the basic information about stem cells in the umbilical cord blood.

from stem cells specialist or the representative of blood bank before.

Data collection was conducted on mother class activity which held by the hospital on weekends during August 2014. Researcher used the open-end questions which allow interviewee to explore the answer in details from their own perspectives.

Mother class often is offered through birthing centers of private hospital and normally there is one instructor that teaches about the signs of labor and review the stages of labor. Mother will have a chance to practice many strategies during the class such as the way to control pain and the positioning for delivery the baby. During the break of this class, researcher collected data through open-end question.



**Figure3.1 Represent the activity of mother's class which traditionally use breathing techniques and exercises to help pregnant women to prepare for childbirth**

**Source: Daily Mail Reporter, Mail Online, 2011**

The questions used for the interviewing consist of two majors section. Comprising of the question that designed for identify the relationship between social and marketing influence to the customer buying decision. The interview session lasted within approximately 10 minutes and researcher supported all of pregnancies for the good understanding in the different questions before start recording.



### 3.3 Interview Question

The questions to be used for interview are developed from several previous research with different topic such as a study of the influence of promotion, a study of young consumer in Mainland, influences aspects of family decision making, impact of culture on tourist decision making style etc. The question are shown as below.

#### 3.3.1 General Question

1. How do you think about collecting stem cells from umbilical cord blood?

2. Why you decide to collect stem cells for your first child? Why not?

#### 3.3.2 Culture

1. Can u describe when you make a decision? You make it on your own or with the help of others? (French DJ, West RJ, Elander J, Wilding JM., 1993)

2. How do you think about people who support you in decision making? (French DJ, West RJ, Elander J, Wilding JM., 1993)

3. Would you explain how important is other's support to you? (French DJ, West RJ, Elander J, Wilding JM., 1993)

#### 3.3.3 Social

1. How do you think about word of mouth from others when you consider about collecting stem cells from umbilical cord blood?(Young Ae Kim, Jaideep Srivastava, 2007)

2. How do you think about recommendation of others when you consider about collecting stem cells from umbilical cord blood?

3. Describe when you make a decision, How much you care in others opinion and why? (Young Ae Kim, Jaideep Srivastava, 2007)

#### 3.3.4 Family

1. How would you make a decision if you have the support or opinion about collecting stem cells from family member? (William O. Bearden, Michael J. Etzel, 1982)

2. How you feel when make a decision after discuss with family member? Do you feel more confident? Why? Why not? (Asim Ali, 2013)



3. From your opinion, collecting stem cells from umbilical cord would be decided from whom? Please share your experience towards this topic (Meten Kozak, Levent Karadag, 2010)

### **3.3.5 Product**

1. Would you please explain about the information you may looking for when consider collecting stem cells from umbilical cord? (Kwan C.Y., Yeung K.W., Au K.F, 2004)

2. How it important to know stem cells benefit before you make a decision? (Kwan C.Y., Yeung K.W., Au K.F, 2004)

3. If you decide to collect stem cells, what is your expectation regarding to the product itself? How it important to you? (Kwan C.Y., Yeung K.W., Au K.F, 2004)

### **3.3.6 Price**

1. How it important to ensure that the price is commensurate with the quality before make a decision to purchase stem cells from umbilical cord? (T. Satandhan, S. S. Kodithuwakku and L.H.P. Gunaratne, 2008)

2. How would you estimate value of the product? Is the price is one of your criteria? Why? Why not? (Vanda Jirasek Aygun Safarli, 2010)

3. How much the cost of collecting stem cells from umbilical cord blood in your mind? (T. Satandhan, S. S. Kodithuwakku and L.H.P. Gunaratne, 2008)

### **3.3.7 Promotion**

1. How do you think about promotion, Have you ever buy the product or service because promotion can persuade you very well at that moment? (Laurent Hubrechts & Beyhan Kakturk, 2012)

2. How do you think about promotion in stem cells business?

3. How is the promotion you may expect to see in stem cells business? (Gita De Souza, 2002)

## CHAPTER IV

### RESEARCH FINDING AND RESULTS

This chapter report's findings of the study on factor that influence parent's decision to collect stem cells from umbilical cord blood. In this study has two main factors which are cultural influence and marketing influence and the relationship that can influence parent's decision when consider about stem cells collection. In cultural influence part, this research discovers the characteristic of people which are individualism and collectivism. There are three questions to measure the respondent's characteristic. In marketing influence part, questions contain with price, product and promotion. There are three questions to measure the respondent's concern about stem cells collection.

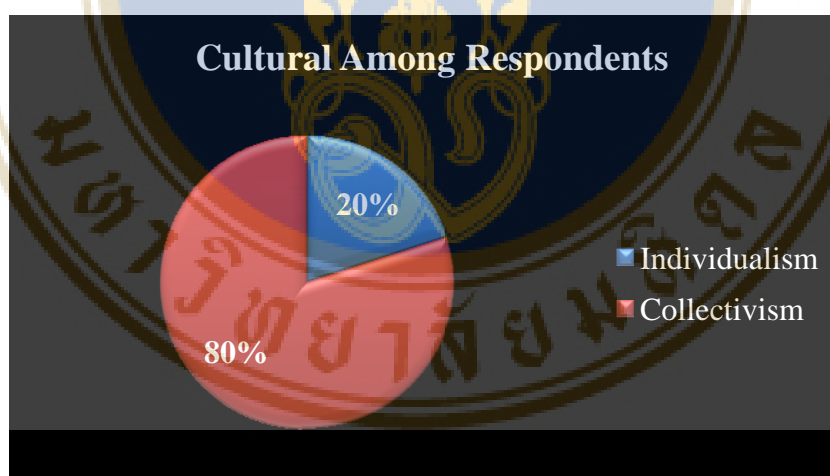
#### 4.1 Social Influence

According to the framework on social influence consist of culture, social and family. These three factors have influence to customer buying decision as the finding below.

### 4.1.1 Culture

**Table 4.1 Represent factor of culture influence**

Culture	Cultural Influence										Total
	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	
Individualism				X						X	2/10
Collectivism	X	X	X		X	X	X	X	X		8/10
Negative in other's opinion				X						X	2/10
Positive in other's opinion	X	X	X		X	X	X	X	X		8/10
Not give precedence to other's opinion				X							1/10
Give precedence to other's opinion	X	X	X		X	X	X	X	X	X	9/10



**Figure 4.1 Represent cultural among respondents**

Researcher finding is consistent with other research which indicate that Thailand is classified as collectivism country Hofstede, (geert-hofstede.com) as researcher found that 80% of respondents are collectivism and the rest is individualism.

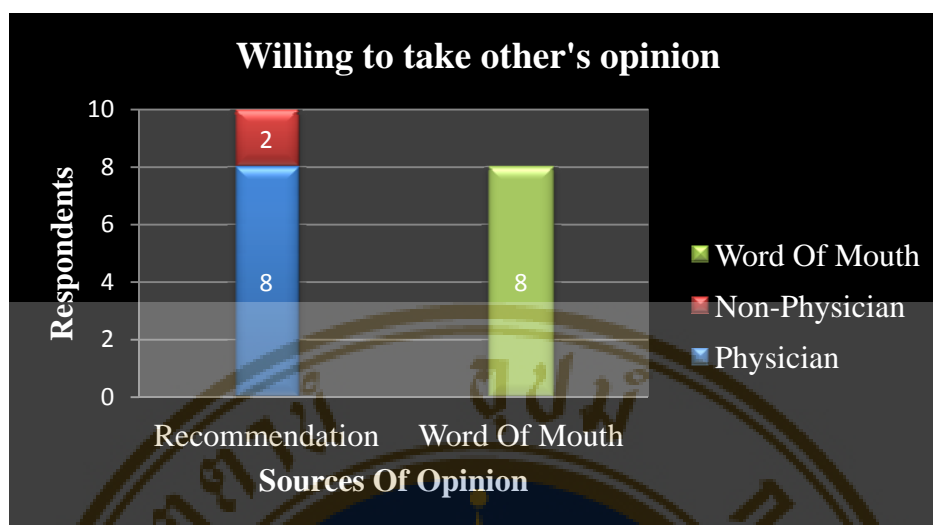
According to the question used in order to measure culture of respondent which researcher focus in term of individualism and collectivism. Eighty percent of respondents tend to listen to other opinions and use it as the information before make a decision about stem cells collection. They often have positive feeling on other opinions whether it is similar or different from their own thinking and feeling. All opinions are useful for the decision making because most of respondents need to have a clearly understanding about stem cells collection from all perspectives before making a final decision. Stem cells is the new thing in Thailand medical profession, many parents already have awareness about stem cells but not in details well enough to make a decision easily. Each respondent has different searching information behavior when they look for stem cells from umbilical cord blood. Individualism tends to go through the internet themselves and collectivism tends to listen the information from others which is reasonable. According to the above Table2 individualism quite does not give precedent to other's opinion, but eight respondents who classified as collectivism have positive feeling to other's opinion.

#### 4.1.2 Social

**Table 4.2 Represent factor of social influence**

Social	Cultural Influence										Total
	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	
Listen to other's word of mouth	X		X		X	X	X	X	X	X	8/10
Listen to other's recommendation	X	X	X	X	X	X	X	X	X	X	10/10

Table 4.2 showed the results when researcher asked about degree of listening to other's opinions and respondent's confident in decision making. All of respondents feel more confident after discuss with family or the person who they feel close with, and this is consistent with the previous of Burn, Thongprasert, 2005. Only one respondent (Individualism) who do not need any discussion with anyone because she has higher self confident compare to other respondents.

**Table 4.3 Represent willing to take other's opinion**

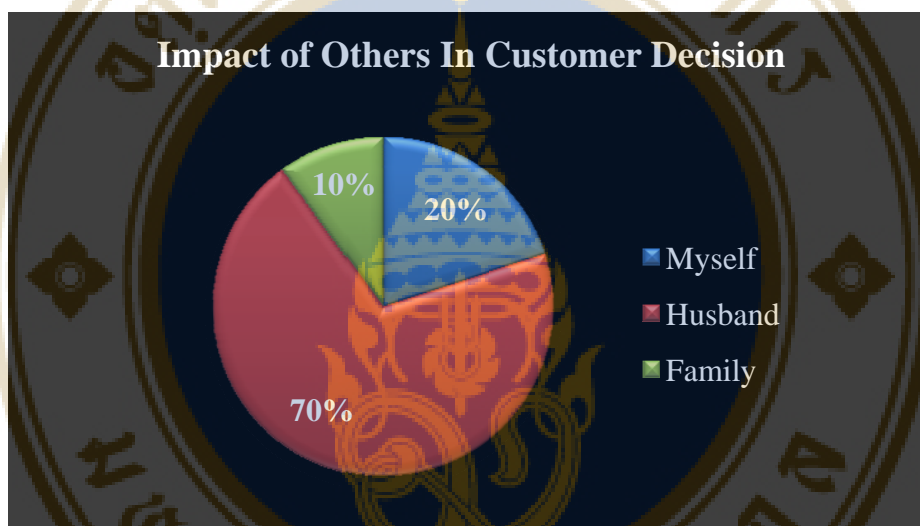
According to Thailand cultural which researcher agree with Hofstede, (geert-hofstede.com) that Thailand is classified in the collectivistic society. It made people feel better to talk, share and discuss with others before make a decision. In this study, researcher found that people tend to receive the information through both word of mouth and recommendation which is consistent with Coleman and Handel, 1959 as they said *"the working class Largely depend on word-of-mouth recommendation before making major purchases"* Each respondents has different feeling between passively and negative on other's words of mouth.

Respondents who have positively feeling on other's words of mouth are tend to listen and take the information as raw data which they will use when evaluate about stem cells collecting later. Respondents who have negative feeling on other's words of mouth are concern about reliability of word because they do not know the talker before so, they feel uncomfortable to listen on other's words of mouth. By the way, all of ten respondents need stem cells information from Physicians or Specialists when they consider about stem cells collecting because Physician or Specialist are more reliable to them. Eight from ten respondents confirmed that the recommendation about stem cells collecting from Doctor can help them to make a decision easily. On the other hand, recommendation from people who they feel close with also have an impact on their decision. However, they feel more confident if stem cells collecting is recommend by Physician or Doctor.

### 4.1.3 Family

**Table 4.4 Represent factor of family influence**

Family	Cultural Influence										Total
	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	
Family members can be influence	X	X	X		X	X	X	X	X		8/10
Family's opinion can help feel more confident	X	X	X	X	X	X	X	X	X	X	10/10
Decider is husband	X	X	X		X	X	X	X	X		8/10



**Figure 4.2 Represent impact of others in customer decision**

When talk about decision making, all of respondents feel easier to make a decision and feel more confident after discuss with their family. Mostly the final decision is depend on husband because they feel that the baby is also belonging to his/her father. They tend to listen husband more because of trust and respect feeling. One of respondent explained that stem cells have high collection cost and she can't take all of its cost which this issue make husband have more role in decision making about stem cells from umbilical cord blood.

Only two respondents who mentioned that stem cells from umbilical cord blood can be collected only when both herself and her husband be in accord. This is not consistent with the previous study from Som Aditya Juyal and M. P. husbands and

wives sharing decision-making tasks. One respondent prefer to give authorize of decision making to family (parents) because her parent have better knowledge about stem cell. Only two from ten respondents who prefer to decide about stem cells collection by their own decision and both of two respondents are individualism.

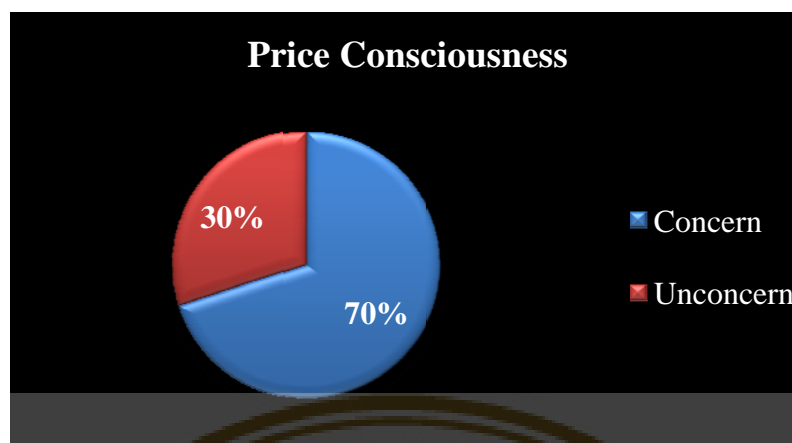
## 4.2 Marketing Influence

According to proposed framework which marketing influence consists of price, product and promotion, these three factors have influence to customer buying decision as the finding below

### 4.2.1 Price

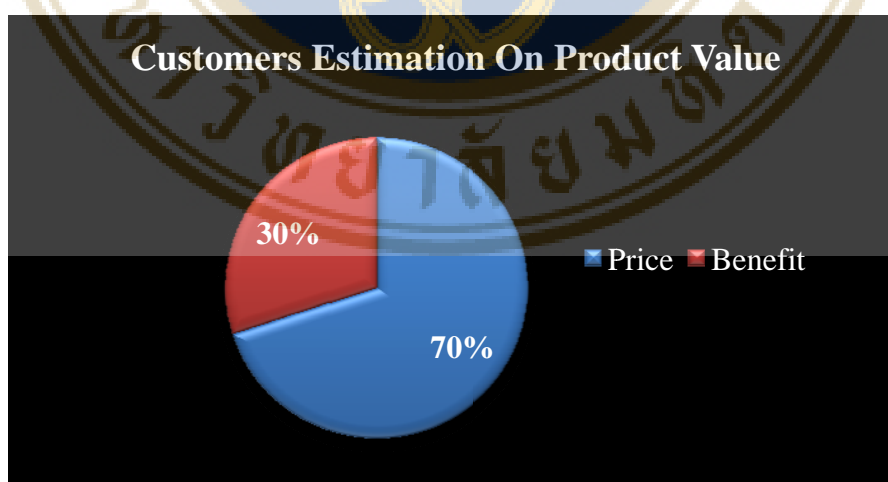
**Table 4.5 Represent factor of price influence**

Price	Marketing Influence										Total
	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	
Price consciousness	X	X	X		X	X			X	X	7/10
Use price as a criteria when evaluate value of the product	X	X	X	X			X		X	X	7/10
Maximum price in customer's mind	100k	85k	70k	150k	70k	100k	120k	200k	200k	80k	None



**Figure 4.3 Represent price consciousness**

Price of stem cells collection is the most concern in this study, seven respondents confirmed that price is the first thing that come up into their mind when considering about stem cells collection and this result is consistent with Raiz, Tanveer (n.d); Goi, 2011, Muala, Qurneh, 2012 as they conclude that price is consider to be the most significant factor that affect customer buying decision. All of respondents need to ensure that the price is commensurate with the quality before make a decision especially about stem cells from umbilical cord blood collection as it has high cost of collection then parent have to think more carefully.

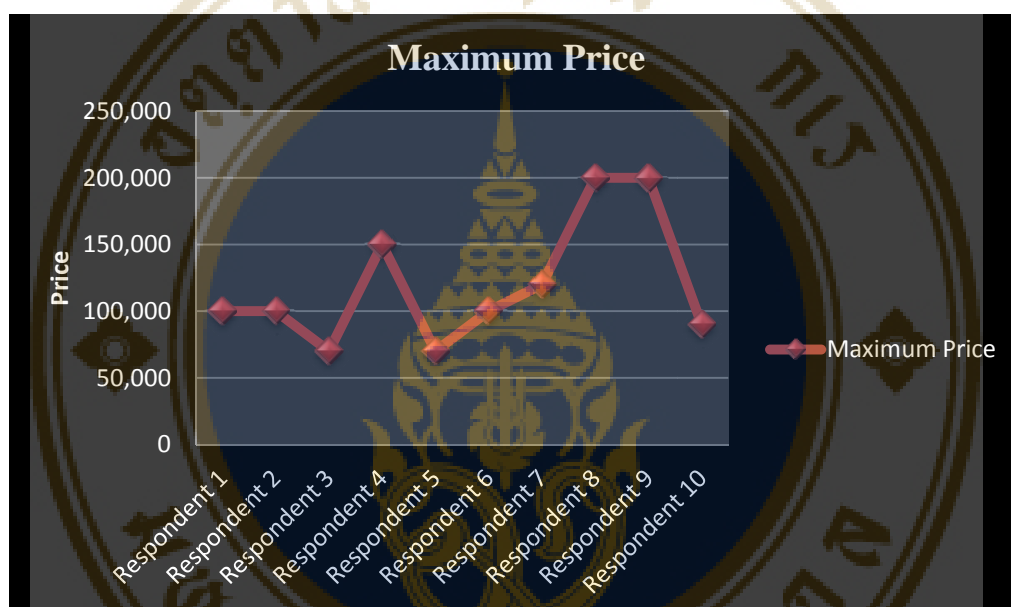


**Figure 4.4 Represent customer's estimation on product value**

When talking about the criteria that respondents use to estimate product value. Seven from ten respondents tend to evaluate value of the product by using price



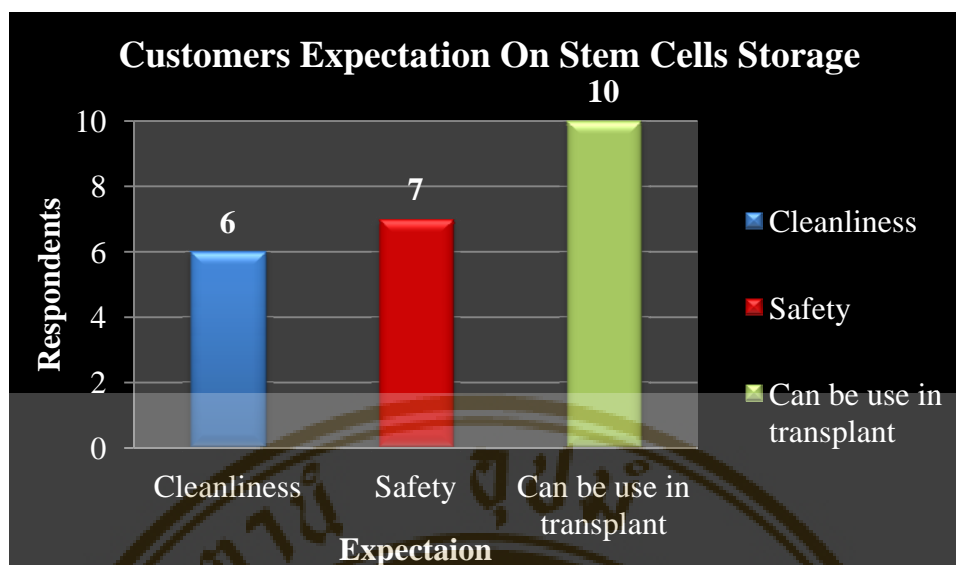
as the criteria because they have the perception that higher in price is higher in product quality. Three respondents more focus at the benefits of product. This result is consistent with Virvilaite et al, 2009 who conclude that customers most often think about price of the products or services when they estimate its value. Many respondents support that they concern about the price because the cost of stem cells collection is quite high and hard to afford. Benefits also are important for them but less than price because stem cells of their baby will be used only when the baby facing with threatening disease and there is not much chance that stem cells will be needed.



**Figure 4.5 Maximum price in customer's mind**

Each respondent has different maximum price or acceptable price in mind. Researcher found that the acceptable price of stem cells collection varies across among 10 respondents since 70,000-200,000 depends on their spending ability. Six from ten respondents can afford the cost not over 100,000 THB. The rest that is four respondents have higher ability to afford the cost of stem cells collection between 100,000-200,000 THB. This result is consistent with Nakhleh, 2012 who conclude that customer have different perception about the price of the same products or services among individuals.





**Table 4.7 Customer's expectation on stem cells storage**

All of 10 respondents concern about product quality in term of cleanliness and reliable method of stem cells storing to ensure that stem cells can be use when needed whether in transplantation or beauty clinical treatment. One respondent supports that it is not reasonable to collect stem cells from umbilical cord blood if her baby cannot use it in the future when needed.

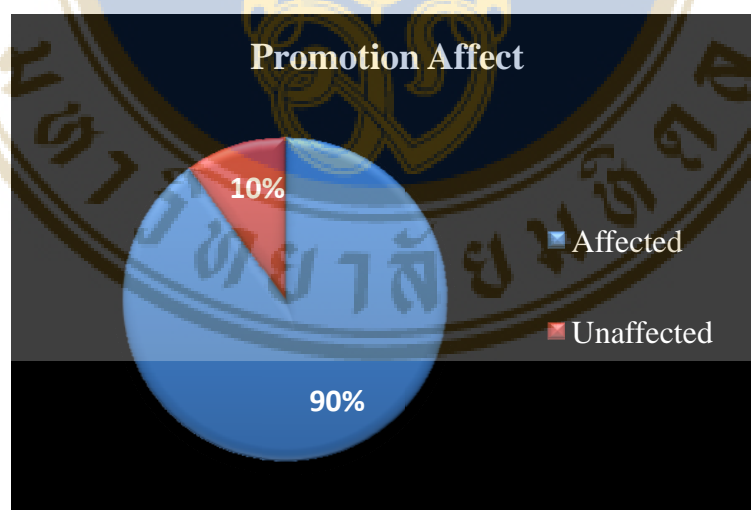
**Research:** If you decide to collect stem cells, what is your expectation regarding to the product itself? How it important to you?

**Respondent:** Safety is very important, I don't need it contaminate by any piece of bacteria. If stem cells of my boy have to take risk on this. I will not keep it because it can't be used in transplant in the future anyway.

### 4.2.3 Promotion

**Table 4.8 Factor of promotion influence**

Promotion	Marketing Influence										Total
	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	
Can persuaded by promotion	X	X	X		X	X	X	X	X	X	9/10
Kid's Appliance					X	X	X	X	X		5/10
Vacation Package								X			1/10
Spa Package		X					X				2/10
Life Insurance				X							1/10
Health Check up Program			X								1/10
Discount	X									X	2/10



**Figure 4.6 Represent promotion effect**

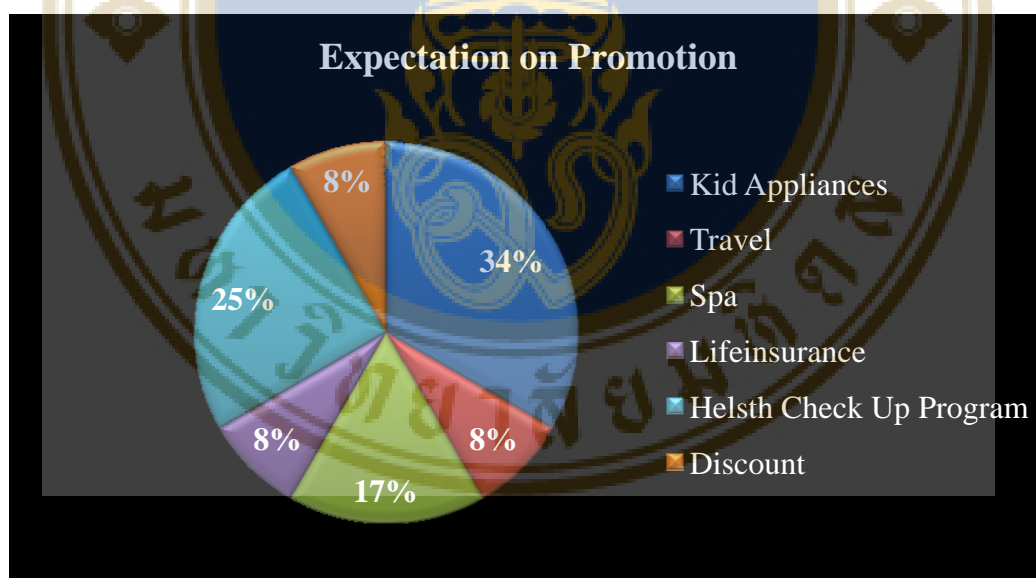
Researcher found that promotion can persuade nine from ten respondents to purchase the product and service such as buy one get one free, co-promotion with other's product and discount from using credit card. This result is consistent with Goi,

(2011), Muala and Qurneh, (2012) as they conclude that promotion can persuade the target market and guide the customers to take an action at a specific time. There is only one respondent who not persuaded by promotion and she explained this view when researcher asked the question as the quoted below.

**Researcher:** *“How do you think about promotion, Have you ever buy the product or service because promotion can persuade you very well at that moment?”*

**Respondent:** *“I can’t remember. I’m not pay attention on promotion really”*

Researcher think that interesting promotion can persuade customer better than general promotion because many respondents looking for the interesting promotion as researcher could hear the word “interesting” many times such as “I think interesting promotion is important in any business” or “I think the discount would be interesting”



**Figure 4.7** Represent expectation on promotion

Each respondent prefers different promotion in stem cells business. Four of respondents prefer kid appliance. Spa package and discount have two respondents for each one. Vacation package, Life insurance and Health Checkup Program have only one respondent for each one. The result of this study shown that Kid’s appliance has

the most percentage when comparing with other promotions. All of respondents pay attention the most at their baby but not all of them prefer kid's appliance because they need relax time after give a birth. This thought has been explained as the quotes below.

**Prefer Kid's Appliance**

**Respondent A:** *"I prefer something related to my baby such a kid's appliance like....baby stroller, car seat or bed for baby"*

**Prefer Spa Package**

**Respondent B:** *"I think spa promotion would be interesting for me because now I really focus on my baby so, after I give a birth I need something refresh myself. U know like I like to take care myself and have a good looking by making up my face but during this nine months I avoid all of chemical so I stop nail painting and there is no spray no wax on my hair I mean any chemical can affect my baby so, spa promotion is sound interesting"*



## CHAPTER V

### CONCLUSION AND RECOMMENDATION

#### 5.1 Conclusion

The research studies on parent's decision to collect stem cells from umbilical cord blood by interviewing. There are two research questions which are the factors that influenced parent's decision to collect stem cells from umbilical cord and the expectation on collecting stem cells from umbilical cord blood service. Results report that culture and marketing elements are the key factors on parent's decision making to collect stem cells from umbilical cord blood. The expectation that customers concern in stem cells business are about product quality and interesting promotion.

Culture of people has an effect on customer's thinking and feeling on stem cells collection. Individualism tends to make a decision by themselves without needed on other's opinion. Collectivism tend to need other's opinion in order to gather the information from all perspective before make a final decision. Collectivism also persuaded easily by other's words of mouth and recommendations. Both individualism and Collectivism will feel more confident to collect stem cells from umbilical cord blood if they got family support but final decision of collectivism is sway on husband opinion and final decision of individualism is depend on themselves.

Price is the first issue that come up into customers mind when consider to collect stem cells from umbilical cord blood and they have different level of the maximum price on stem cells collection between seventy thousand to two hundred thousand. On the other hand, promotion is the most important factor as customers are easily persuaded by promotion especially promotion about kid's appliance

Benefit of stem cells from umbilical cord blood also has the important role in stem cells business as customers need to understand its benefit and worthiness before make a decision

The expectation of customers includes cleanliness and safety of stem cells which it helps they feel more confident that their stem cells can be use in the transplant

when needed. Customers have very different expect on promotion but most of them prefer kid's appliance.

## **5.2 Recommendation**

### **5.2.1 Selling Skills**

Cord blood bank should provide selling skills training for sales representative in order to add the ability to screen customers and able to classified type of customers between individualism and collectivism so that sales can choose the appropriate selling to each customers. For example, Customers who are individualism have higher self confident. Sales should go along with their opinion before presenting stem cells information in a different view in order to avoid customer's resistance. For customers who are collectivism which can persuaded easily from other's opinion and husband often role as a decider about stem cells collection. Beside talking to pregnancy, sales should look for the chance to talk to her husband in order to find out the important factor that can encourage him to agree on collect stem cells from umbilical cord blood for the baby

### **5.2.2 Warranty**

Cord blood bank should assure on cleanliness and safety of stem cells to obtain customer's confident that every stem cells unit in this blood bank can use in the transplant when needed. There are many ways to assure storage quality such as showing the reliable certificate to customer or present the case study that use stem cells from cord blood bank in the real transplantation etc. These can help customer feel confident to store their stem cells and have the direct positive effect on sales revenue.

### **5.2.3 Price**

As Thai people is quite price consciousness, cord blood bank should set the appropriate price to target customer because customers in each hospital have different power purchasing. For example, customer who has prenatal care in private hospital has higher purchasing power than customer in government hospital.



#### **5.2.4 Promotion**

Customers have different preference in promotion; cord blood bank should provide the various promotions to customers so that they can choose the best promotion for themselves. Kid's appliance should be more focused more than other promotions as most of customers looking for it.

#### **5.3 Limitation**

According to research methodology which researcher chose qualitative in order to gain in dept understanding and respondents target is required to be pregnancy. Researcher choose to access respondents at private hospital and ask for their collaboration. Many respondents refused to have an interview because researcher did not have an appointment before and they feel disturbed. Some of respondent participate to the interview but unwilling to answer the question.

Researcher had an interview only 10 respondents which it is quite too small sample size and it made the result may not cover all of customer insight in stem cells collection business.

#### **5.4 Future Research**

Husband of respondent (pregnancy) and Obstetrician should participate in interviewing as the result showed that husband is decider on stem cells collection and recommendation from doctor is stronger voice than others. Stem cells in Thailand medical profession will be more widespread and easy to access its details not only private hospital but also public hospital. Future research should give precedence to the customers in government hospital as well

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## **APPENDIX A: Interview**

### **Respondent A**

#### **How do you think about collecting stem cells from umbilical cord blood?**

- It's wonderful....I think stem cells in the future will be principle for everyone to bank it. Old people will have longer life because stem cells can take care of pest.

#### **How many kids you have?**

- This is my third child

#### **Why you decide to collect stem cells for your first child? Why not?**

- Unfortunately for my eldest child, at that time I don't know about stem cells and the hospital didn't give me any recommendation about this so, I start to bank stem cells since second child

#### **Can you describe when you make a decision? You make it on your own or with the help of others?**

- I decide everything by myself, it's waste of time to consult others

#### **Can u explain a bit more, how do you think it waste of time**

- I mean it's not necessary to have any discussion because I know what I should or shouldn't do

#### **How do you think about people who support you in decision making?**

- Annoying but just listen is fine

#### **Would you explain how important is other's support to you?**

- It would be important if I need other's opinion at that time but mostly I don't want other to support me. I can take care myself and my decision

#### **So, u think supporting from others is annoying for you?**

- Yes



**How do you think about word of mouth from others when you consider about collecting stem cells ?**

- I have no idea about this really. My time is not for listen word of mouth of others

**How do you think about recommendation of others when you consider about collecting stem cells?**

- Honestly I never looking for word of mouth but I need the recommendation from the doctor because he is the best one who can suggest me, physician always know things well

**So, you trust doctor's word but not word from others?**

- Yes, word from doctor always sound reliable for me

**Describe when you make a decision, how much you care in others opinion and why?**

- Well I care, but not everyone and I don't care much because I trust myself and I just be a good audience but the final decision is mine

**How would you make a decision if you have the support or opinion about collecting stem cells from family members, is it easier for you to make a decision?**

- May be or may be not, It would be easier if we have the same agreement but it may be annoying if they not ok in my decision

**How you feel when make a decision after discuss with family member? Do you feel more confident? Why? Why not?**

- Yes, feel more confident if we heading to the same thing

**From your opinion, collecting stem cells from umbilical cord would be decided from whom ? Please share your experience towards this topic**

- Decide from whom.... As I told u that I usually decide everything by myself obviously from me because I'm his mom and I will take all responsibility about my kids. I used to talk about stem cells with my friend and she disagree on this. I'm not sure why she think it doesn't work. I don't care anyway

**Would you please explain about the information you may looking for when consider to collect stem cells?**

- I think, first is the benefit and also the recommendation from doctor

**How about the price?**

- Uhm... the priority is the benefit and the price follow this

**How it important to know stem cells benefit before you make a decision?**

- To evaluate how much it worth to buy and how it decrease risk of my family healthy?

**If you decide to collect stem cells, what is your expectation regarding to the product itself? How it important to you?**

- Safety is very important, I don't need it contaminate by any piece of bacteria. If stem cells of my boy have to take risk on this. I will not keep it because it can't be use in transplant in the future anyway

**How it important to ensure that the price is commensurate with the quality before make a decision to purchase stem cells?**

- Price is not a big point, if stem cells can safe my kid's life. I can pay even it big amount

**How would you estimate value of the product? Is the price is one of your criteria? Why? Why not?**

- Yes, price can measure value of the product. It's normal logic, high value is higher in price and low value is lower in price

**Can you please give me an example?**

- Like I buy rolex, it's very high quality I can use it more than 10 years, but if I buy 100 baht from JJ it will be broke within 3 months

**What would be the price of stem cells collecting that you consider to be too expensive to consider?**

- Around five hundred thousand is the highest cost I can accept. Higher than this it's not ok

**How do you think about promotion, Have you ever buy the product or service because promotion can persuade you very well at that moment?**

- I can't remember. Actually I'm not pay attention on promotion

**What kind of promotion you may expect to see in stem cells business? How it interesting to you?**

- Uhm... life insurance for my baby, because I have to buy it anyway and I haven't time much to find the suitable one

## **Respondent B**

### **How do you think about collecting stem cells from umbilical cord blood?**

- I think it's a good thing because of its benefit is beyond other medical therapy, but it's a bit too expensive, however it's worth

### **How many kids you have?**

- This is my first child

### **Why you decide to collect stem cells for your first child? Why not?**

- Because I think health of my child is the most important thing for me. I feel more secure when I know that he will have this stem cell to protect him

### **Can you describe when you make a decision? You make it on your own or with the help of others?**

- I consult with my husband before decide to collect stem cell because it's our child. I need his support before making a decision

### **How do you think about people who support you in decision making?**

- I feel appreciated for those who support me because they make my decision easier

### **Would you explain how important is other's support to you?**

- It's very important for other to support me because this is not a small issue

### **So, you think supporting from others is important for you?**

- Yes

### **How do you think about word of mouth from others when you consider about collecting stem cells from umbilical cord blood?**

- Word of mouth just have a bit impact on me. But I prefer consult with the specialist or doctor by myself rather than listen to word of mouth

**How do you think about recommendation of others when you consider about collecting stem cells from umbilical cord blood?**

- The recommendation I prefer listen to doctor, if the doctor don't recommend I won't do it

**Describe when you make a decision, how much you care in others opinion and why?**

- I care about other opinion but just only from my family, other people have no impact on me but family is the most important opinion for me

**How would you make a decision if you have the support or opinion about collecting stem cells from family member, Is it easier for you to make a decision?**

- Family opinion and support will be easier for me to make a decision especially my husband because it's our child, we should discuss it together before do it

**How you feel when make a decision after discuss with family member? Do you feel more confident? Why? Why not?**

- I feel more confident because family is the most important people for me, if they support then I don't have to care about others

**From your opinion, collecting stem cells from umbilical cord would be decided from whom? Please share your experience towards this topic**

- It would be decided from me and my husband because it's our child

**Would you please explain about the information you may looking for when consider collecting stem cells from umbilical cord?**

- I would consider the benefit that my child will get from the stem cell and the price of collecting it

**So, price is the first one that comes up in your mind**

- Yes

**How it important to know stem cells benefit before you make a decision?**

- It's very important to know the benefit of it first before making a decision because it's expensive, I have to carefully consider about it before making a decision

**If you decide to collect stem cells, what is your expectation regarding to the product itself? How it important to you?**

- Safety is the most important issue

**How it important to ensure that the price is commensurate with the quality before make a decision to purchase stem cells from umbilical cord?**

- Price is the second issue for me. I care more about its benefit and safety

**How would you estimate value of the product? Is the price is one of your criteria? Why? Why not?**

- Yes, price is one of my criteria because I need to know how much I have to pay for this thing

**What would be the price of stem cells collecting that you consider being too expensive to consider?**

- About 120,000 is ok for me if higher then have to re-consider

**How do you think about promotion, Have you ever buy the product or service because promotion can persuade you very well at that moment?**

- Yes it's often that promotion can persuade me but for stem cell promotion, I think the discount would be interesting

**What kind of promotion you may expect to see in stem cells business? How it interesting to you?**

- May be something about beauty course after give birth. I looking for reducing weight course