Perception of UCB Banking amongst Youth in India.

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Abstract: Umbilical cord blood (UCB) is known to be an appropriate source of haematopoietic stem cells (HSCs). A rapid increase in number of UCB transplants specifies an expansion of utility in an extensive spectrum of disease conditions. Other potential applications of the UCB include immunotherapy, tissue engineering, and regenerative medicine. Human trials involving cell types obtained from UCB have been introduced. Aim of this study was to determine the level of awareness about Umbilical cord blood banking among individuals in India and also to assess their perception for UCB banking and their willingness to do it. The total of 543 participants actively participated in the study. The study consisted of six questions, which were designed to know the awareness and attitude of the people towards UCB banking. Out of total individuals surveyed only 48% individuals were aware of UCB banking, 89% of participants showed willingness to do UCB banking in future and 96% of the studied population agreed on the concept of active participation of government in UCB banking especially if the storage cost can be economized. This information obtained may help enhance recruitment efforts and also obstetricians should play a more active role in explaining the patients regarding pros and cons of UCB banking.

Keywords: Haematopoietic stem cells, UCB transplants, immunotherapy, tissue engineering, regenerative engineering.

1. Introduction.

Umbilical Cord blood is the blood which is found in the umbilical cord and it is very rich source of haematopoietic stem cells. This cord blood is very easy to collect and also it is a painless process for mother and absolutely safe for her child[2]. During the time of delivery, once the child is born, the umbilical cord is usually removed by the doctors in a normal birth procedure. Rather than discarding the umbilical cord blood, it is being collected and it is FDA & NDA approved. Further, the cord blood is kept in frozen conditions and stored for longer period of time i.e. several decades, until you require those stem cells. The stem cells which are extracted or retrieved from the blood, present in the umbilical cord that is attached to the placenta are known as cord blood stem cells. These are also known as umbilical cord blood cells. These cells are very unique and powerful that have very vital role to play in the treatment of many lethal diseases as well as disorders. The oldest Cord blood sample which was stored is known to be now in excellent conditions even after storing it for 23 years of age [3]. Umbilical Cord Blood (UCB) stem cells can be used in the treatment of more than 80 diseases and the trials are undergoing for its accuracy, efficiency for many other diseases as well[3]. The UCB stem cells, can be used in treatment of various fatal diseases. The stored cord blood sample is being taken up by the doctors which is referred to as "unit" which they further administer into a patient, who is suffering from dangerous conditions and need those stored stem cells in order to get treated. According to the ongoing research and the trials, the stem cells actually adapt or accept the host's body and eventually repair the damaged tissues in the body of the patient. The effect of these stem cells is such that it starts the recovery or you can say healing process and rebuilt the immunity of the patient and helps them in improving the possibility of the successful treatment. The Umbilical Cord blood can be stored basically in two ways:

- Storing the cord blood stem cells in a "Public bank"- where the stem cells can be used for pairing or matching the cord blood with the patients suffering from certain disease [1].
- Storing the Cord blood stem cells in a "private bank"- where the parents can have their child's stem cells stored for any future treatment needs if arises. [1]

The main aim of this survey was to assess the awareness, response, attitude and knowledge towards UCB banking amongst the youth in India.

An explorative questionnaire based survey was used. The survey was carried out in the local areas of Mumbai, India and the campus of K.J Somaiya College, Mumbai. The participants of the survey were of varied age groups. Total number of 543 individuals participated, out of which 177 were males and 366 were females. The participants were introduced to the survey and its aim by one of the analyser. The participants were first explained about the survey topic and later the questionnaire of 06 questions was given to the participants. The investigators provided answers to educate the participants to make them aware of the myths and realities of UCB banking.

3. Results.

The total of 543 people participated in the study out of which there were 177 males and 366 females.

3.1. Awareness on UCB Banking.

Depending on the first two questions, it was observed that the awareness of UCB among studied population was poor. Out of total population approximately 48% of the population was not aware of UCB banking and the institutions carrying out UCB Banking.

3.2. Attitude towards UCB Banking.

From the third and fourth questions, it was observed that above 89% of the studied population are willing to do UCB Banking for their new-born and think that the process is worth the cost.

3.3. Expectations from government and private bodies concerning UCB Banking.

From the studied population about 96% of the population agreed for active participation of government and private bodies such as hospitals in UCB Banking.

4. Discussion.

According to the results obtained it can be concluded that the overall awareness about the UCB Banking was very poor among the studied population. Out of the total population approximately 48% of the people were aware of UCB Banking and the associated institutions. Likewise, only 26.5% pregnant women were aware of the UCB Banking in another survey conducted in India [1]. Similar results were observed in other studies from Canada and Europe [4,5]. The awareness regarding Cord Blood Banking was highly dependent on the level of education. Such type of condition were also observed in Chinese population in a recent survey [6]. The present study, found that very few individuals(48%) were aware of UCB banking, but maximum number(89%) of individuals agreed to do it after they were made aware of the benefits of UCB banking. Major part (96%) of the studied population also agreed for active participation of the government for awareness of UCB Banking. Approximately 68% of the studied population was females and almost 91% of females were willing to do UCB banking in their near future. When given
complete information about the UCB banking and its process during delivery, all the females found it beneficial and suggested for government support towards UCB banking. The studied population was totally unaware of public and private UCB banks, which shows that people have to be made aware of the difference between the two. The government should therefore, provide an accurate information regarding the advantages and disadvantages of private and public UCB banks.

In a recent survey of awareness of UCB in India who surveyed few groups of general population and doctors, it was revealed that 58% of the doctors and 82% of the general population were not aware or misguided regarding the UCB banking [8]. The present study therefore suggests that, obstetricians, gynaecologists and others health care professionals should make it a priority to increase awareness of umbilical cord blood banking and donation to develop and expand status of UCB banking in India.

5. Conclusion.

This survey concludes that it is the moral responsibility of the obstetricians and paediatricians to provide appropriate information regarding the UCB Banking. It was observed that Government can play an important role in spreading the required and right information to the parents that would eventually be helpful for them to take the right and appropriate decisions. Also the study suggests for guidance regarding UCB and its banking process in educational institutions amongst the youth. The study revealed that the individuals were aware of the term UCB Banking, through some advertisements in day to day life. Hence, approaching mass media for spreading awareness of UCB’s advantages and benefits of its storage in UCB banks, is recommended by the present study.

6. Acknowledgement.

The authors are thankful to the participants of the study.

7. References.


