Protocol on Effect of Planned Teaching on Knowledge Regarding Menstrual Blood Banking among Nursing Students

ABSTRACT

Background: The student's changing habits varies depending on their intellectual level. Transition concerns are also present among college students. You have issues with your parents and siblings due to shyness and aggression. They are having academic adjustment issues as a result of the new academic pattern, atmosphere, and faculties. Academic transition includes finding inspiration, taking actions to satisfy academic obligations, and dealing with academic frustration. **Aim -**To evaluate the effectiveness of planned teaching on knowledge regarding Menstrual Blood Banking among nursing students. **Methods –** The data gathering process began from 5th April 2021. The investigators visited selected nursing school in Sawangi (M) Wardha City and got the mandatory authorization from the concerned authorities. To ensure better coordination during data collection, the researchers introduced themselves and told them about the purpose of the study. The researchers contacted the final year nursing students of selected area and clarified the purposes of the study and described how it will be helpful for them. They investigated their will to take part in the study and attain permission from them. They will assess their knowledge regarding Menstrual Blood Banking among Nursing Students by using structured questionnaire and after that, they will give them planned teaching regarding Menstrual Blood Banking. Then, after the seventh day of planned teaching, they will assess their post-test knowledge score regarding Menstrual Blood Banking. The investigators acknowledged all the study samples as well as the authorities for their support. The conclusion will be drawn from the results and will be published in peer reviewed journal. **Materials and methods:** The information was gathered from nursing students at nursing colleges in Wardha district. The research method was quantitative, and the study design was pre-experimental, one group pre-test post-test. The research was conducted at Wardha district's selected nursing colleges. Students make up the population, and samples were taken from 64 nursing students. The data was collected using a self-administered questionnaire and a targeted sample strategy. The tools for data collection used was -socio demographic data (age, education, religion, course, year of study and residence of the students),self-administered questionnaire on Menstrual Blood Banking and lesson plan on Menstrual Blood Banking. **Expected Results**: This study is planned to assess knowledge regarding Menstrual Blood Banking among nursing students. Hence, it is expected to identify the effectiveness of planned teaching regarding Menstrual Blood Banking. The conclusion will be drawn from the results and will be published in per review journal.

Key Word: Effect, Planned Teaching, Menstrual Blood Banking, Nursing Students.

Introduction:

Girls can begin menstruating as early as nine years old and as late as sixteen years old. The average age for a girl to start menstruating is 12 years old. Because it is too early for the girls, they have not prepared physically or mentally for menstruation. When the girls reach menarche, they are too embarrassed to tell their mothers. Because menstruation is not discussed in nuclear families, there will be few opportunities to maintain hygiene during

menstruation. Even though today's girls receive information through the media, it cannot be applied practically unless it is explained.[3]

In terms of the physiologic changes in fertile women and other female primates, the menstrual cycle is a scientific term for sexually transmitting. This article focuses on the human menstrual cycle, a "monthly" cycle lasting around 28 days but vary between people.[4] The average age of menarche in humans is 12–13 years, but it can occur at any age between 8 and 16. Menarche can be accelerated or delayed depending on factors such as heredity, diet, and overall health. Menopause refers to the cessation of menstrual cycles at the end of a woman's reproductive period. Eumenorrhea refers to normal menses that lasts a few days. The average blood loss during menses is 35 ml, 10-80 ml is considered normal.[5]

The uterine endometrial lining has a remarkable capacity for regeneration. Angiogenesis is a critical component of the menstrual cycle's proliferative endometrial phase. The process by which new blood vessels are formed from pre-existing blood vasculature is vital to the human menstrual cycle. The uterine endometrium is active tissue and is known to be one of the few adults in which significant angiogenesis is present on a regular basis, through regular growth and breakdown cycle. During each menstrual cycle the endometrium lining is 5-7 mm in thickness.[7]

Background of the study: Menstruation is a five-day-long, episodic discharge of blood, tissue fluid, mucus, and epithelial cells produced by a drop in oestrogens and progesterone levels. Every woman discharges her menstrual blood since it is an unsanitary waste. What was formerly seen as filthy biological waste can now provide the client a fresh lease on life. According to new research, menstrual blood is a rich source of potentially life-saving stem cells.[2] This finding has given the lives of women new meaning, who have previously seen menses as pain and sorrow. Stem cells are the principal cells in the body that can be transformed into different cell types. The ability to self-renovate or proliferate, while maintaining the ability to distinguish to different cells, is one of the most distinct characteristics of stem cells. Stem cells, among other things, can distinguish between heart, blood, bone, muscle and skin and brain cells. While stem cells originate from a variety of sources, they are all able to distinguish themselves into a range of cells.[3]

Adult stem cells and embryonic stem cells are two of the most popular stem cell sources. Human embryonic stem cells are derived and extracted from remaining embryos and aborted foetal tissues from in vitro fertilisation. In most of these cells, ethical problems are evident. Umbilical cord blood, bone marrow, peripheral blood stem cells, menstrual blood, skin, teeth, placental tissue, and endometrial are all places where mature stem cells can be found.[4]

Mesenchymal Stem Cells are abundant in stem cells collected from menstruation blood (MSCs).[5] By allowing female patients to use their own stem cells for therapies, these stem cells have the potential to assist them overcome the problem of immunological rejection. Menstrual blood stem cells, in particular, can be collected and processed in a non-invasive manner.[6] The process of gathering and conserving menstrual blood for use in cell treatment is menstrual blood banking. A silicone cup is placed in the canal on the day of maximum flow in order to gather the menstrual blood easily and without pain. The cup has to be kept for three hours within the vaginal canal to collect about 30 ml of blood. Afterwards, blood is collected in a collection kit for processing, frozen or storage to a menstrual blood bank laboratory. This technique is quite easy for the user because it is painless and non-invasive. Furthermore, without having to wait for a child to be born, any female can preserve stem cells for future use. Indian women are traditional, and many have superstitious beliefs about menstruation. When urban women were polled, it was determined that almost 80% of them believed in superstitions. On the bright side, nearly a third of women in India's 43 most cosmopolitan cities (Mumbai and Delhi) did not engage in any menstrual-related rituals. These ladies also believed menstrual blood to be a biological waste, but almost 3/5ths of women in a conservative city like Chennai thought it was filthy.[7]

As a result, because menstrual blood banking is a new idea with limited research papers, the researchers wanted to analyse health care workers' knowledge and attitudes about the practise. The researcher also told the female health-care workers that stem cells produced from menstrual blood could be easily obtained and that there are no ethical concerns about their use.

Women have always thrown menstrual fluid as an unwelcomed and disgusting waste. According to recent study, menstrual fluid is a rich source of stem cells that can grow and specialise into any form of cell. Previously, it was considered that blood from the umbilical cord was the best source of stem cells. Only people who had given birth at any time in their lives were able to maintain the umbilical cord stem cells. Researchers have now found and successfully extracted stem cells from menstrual fluid, allowing all women, including those who have never given birth, to preserve their stem cells. The finding of stem cells in menstrual blood has given menstruation a whole new meaning for women who previously thought of it as a painful and necessary evil.

Around 19 percent of the world's population is between the ages of 10 and 19. They are going through a period of transition from childhood to adulthood, and the changes in their bodies are causing them a lot of physical and psychological stress.[1]

The data show that the cell population is a distinct population and can be safely separated from a woman until menopause to provide an extended source of stem cells. Menstrual Blood Banking is still relatively new and a great deal of study of the benefits is ongoing, but it is extremely useful for all women, who want to be very healthy.

Indian women are known for being among the world's most conservative, and many still hold superstitious beliefs about menstruation. When talked with urban women, it was discovered that about 80% of them held superstitious beliefs such as not attending temples. On the plus side, almost a third of the women in India's 43 most cosmopolitan cities (Mumbai and Delhi) did not practise any menstrual-related rituals. Menstrual blood was likewise considered a biological waste by these women, but around $3/5^{th}$ of women in a conservative city like Chennai thought it was dirty.

When the respondents were told about the menstrual blood stem cell banking, nearly three-fifths of the women thought it was plausible. Over 4/5 of younger women thought the concept realistic, probably because they were enthralled by it, whereas older women were sceptical It was also discovered that almost 70% of women in Mumbai and Delhi believed in the concept, however only 34% of women in Chennai and Bangalore believed in it. Overall, 2/5th of the ladies were willing to give blood, and those who were not, most of them felt uncomfortable and thought it was a nasty practise. About 3/4 of those who did not believe requested credibility from doctors/gynaecologists. Nearly half of the respondents also stated that popularising the notion through the media and having others with prior experience attest to the concept would persuade them. More than 4/5ths of the respondents said that hygiene of the menstruation cup was a major concern.

According to the studies, education is a key factor in boosting students' awareness and influencing their attitudes on Menstrual Blood Banking. As a result, there is an urgent need for more nurse researchers to investigate this issue further.

Methodology

The study was based on quantitative study approach with pre-experimental research design. A non-probability purposive sampling technique was used and 64 samples of nursing students in different nursing colleges.

Intervention: Planned teaching on Menstrual Blood Banking.

Statistical analysis: Statistical analysis done by descriptive and inferential statics with the help of SPSS 17.0 software.

Ethical aspects: Study was approved by the Institutional Ethics Committee (letter no – DMIMS (DU)/IEC/2020-21/147) and the study will be conducted in accordance with the ethical guidelines prescribed by institutional Ethics Committee on Human Research.

Expected Results: This study is planned to assess knowledge regarding Menstrual Blood Banking among nursing students. Hence, it is expected to identify the effectiveness of planned teaching regarding Menstrual Blood Banking.

Discussion : Because of a study that used technology to reprogram human somatic cells back to pluripotency, patient-specific induced pluripotent stem cells (iPSCs) are now possible. For regenerative medicine, this holds a lot of potential. To overcome the limitations mentioned above, we discovered that stromal cells derived from menstrual blood (MenSCs) are a suitable source for iPSC research. In the current investigation, menSCs were reprogrammed to pluripotent phase using doxycycline-inducible lentiviral transduction of OCT4, SOX2, and KLF4. The generated MenSC-iPSCs were identical to human embryonic stem cells in terms of shape, pluripotent markers, gene expression, and the epigenetic state of pluripotent-cell-specific genes. These cells were able to develop into a variety of cell types from all three germ layers in vitro and in vivo.

Conclusion: Conclusion will be drawn from the statistical analysis.

Acknowledgement:

We would like to thank everyone of the faculty of Smt. Radhikabai Nursing College in Sawangi (Meghe) Wardha, India for their assistance in completing our research. The scholars whose publications are acknowledged and included in the references of this manuscript have been of tremendous assistance to us. We are also appreciative to the writers, editors, and publishers of all the papers, journals, and books that were used to review and discuss the literature for this study.

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Figures and Tables:-

Fig. 1: Schematic diagram of Study methodology

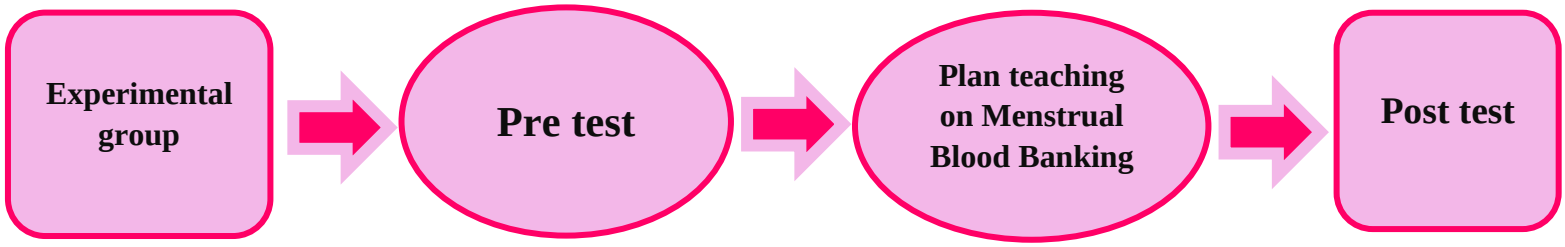

Table1. – The time points of evaluation of Outcome measures:

Outcome	Time points
Primary outcome	Knowledge of nursing students will improve.