

## **Sigma's 30th International Nursing Research Congress**

### **Development of an Informative and Supportive Website for Fertility Support**

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#### **Purpose:**

According to WHO, infertility affected about 48.5 million people worldwide (Mascarenhas, Flaxman, Boerma, Vanderpoel, & Stevens, 2012). The prevalence rate of infertility was about 15% in Taiwan and number of females seeking medical treatment was about 4.7 times more than males (Gender Equality Committee of the Executive Yuan, 2018). While infertility might be a cause of low birth rate, quality of life of those who experienced fertility problems is affected. Studies showed that infertile women had higher rates of experiencing fertility related stress and emotional distress (Gana & Jakubowska, 2014; Greil, Slauson-Blevins, & McQuillan, 2010; Kahyaoglu Sut & Balkanli Kaplan, 2015). Yet, although very few studies had done on effects of support on stress management for infertile women, support was found to be able to moderate the negative effects of stress on psychological distress and increase pregnancy rate of infertile women (Cousineau et al., 2008). While the Internet became a popular media for people to search information, seek advise, and obtain support (Cousineau et al., 2008; Himmel, Meyer, Kochen, & Michelmann, 2005; Kahlor & Mackert, 2009), anonymous online support might be a good and convenient way to provide support for women with fertility problems. The purpose of this study was to develop the Planned Pregnancy Source (PPS) website to provide information and support for females with fertility problems.

#### **Methods:**

Three experts in the fields of obstetrics/infertility and nursing were invited to design the website. Fifteen informants underwent fertility treatments were interviewed in a pilot study, which explored their experience of infertility. Their suggestions and needs for fertile information were used to design the website, which was more health-promotion driven than disease-treatment driven. After a preliminary construction of the website, 20 women underwent fertility treatments were invited to navigate and use the website and gave comments about the website's design, easiness to use, and information provided.

#### **Results:**

The website included six domains: introduction about infertility, information center, my story, discussion forum, and resources. The website included not only texts but also graphs and short clips to increase infertile women's participation willingness. It had both computer and smart phone versions so the use of the website could be broadened. The information center included pregnancy, infertility, and stress management module. Anonymous infertility stories collected in the pilot study were posted in the "my story" module after getting permissions from the participants. The discussion forum was linked to a private Facebook group where only women invited by the research team could join.

In general, the participants agreed that the website was easy to use, the flow was smooth, and information could meet the needs of women with fertility problems. Some women suggested using more pictures/graphs to increase the attractiveness of the website, simplifying the information so lay people could understand, and adding information about up-to-date technologies of infertility and more life/living-related issues such as nutrition and exercise. Although infertility is a serious issue, the researchers were suggested to use an unserious way to talk about this serious topic. Some women suggested adding information about parenting; however, since the main focus of the website was on fertility, information about parenting was not added to the website.

After the website was constructed, the participants posted their thoughts or stories on the Facebook. For those who would like to be anonymous, the webmaster posted their comments after obtaining the women's agreements. The research team checked and responded to all questions and comments every day.

### **Conclusion:**

The PPS provided infertile women a place to share, discuss, gain information, and release stress. Regardless how information is provided, it is important to use the language that the users can understand. Pictures and graphs can be used to make the program attractive. We suggest testing the PPS with more women with fertility problems and reforming the PPS so it can be used by both males and females in future studies. Online voice discussion group may be another way to help women with fertility problems to share their experiences and gain support.

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### **Title:**

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### **Keywords:**

infertility, social support and website

### **References:**

Cousineau T. M, Green T. C, Corsini E., Seibring A., Showstack M. T., Applegarth L., Davidson M., & Perloe M. (2008). Online psychoeducational support for infertile women: a randomized controlled trial. *Human Reproduction*, 23(3), 554-566. <https://doi.org/10.1016/10.1093/humrep/dem306>

Gana, K., & Jakubowska, S. (2014). Relationship between infertility-related stress and emotional distress and marital satisfaction. *Journal of Health Psychology*, 21, 1043–1054. <https://doi.org/10.1177/1359105314544990>

Gender Equality Committee of the Executive Yuan, (2018). Rate of Utilizing the National Health Insurance for infertility. Retrieved November 17, 2018 at [https://www.gender.ey.gov.tw/gecdb/Stat\\_Statistics\\_DetailData.aspx?sn=w9X33thXPLBiBr%2FwSMFPjQ%3D%3D](https://www.gender.ey.gov.tw/gecdb/Stat_Statistics_DetailData.aspx?sn=w9X33thXPLBiBr%2FwSMFPjQ%3D%3D)

Greil, A. L., Slauson-Blevins, K., & McQuillan, J. (2010). The experience of infertility: A review of recent literature. *Sociology of Health and Illness*, 32(1), 140–162. <https://doi.org/10.1111/j.1467-9566.2009.01213.x>

Himmel W., Meyer J., Kochen M. M., & Michelmann H. W. (2005). Information needs and visitors' experience of an Internet expert forum on infertility. *Journal of Medical Internet Research*, 7(2), 1-9. <https://doi.org/10.2196/jmir.7.2.e20>

Kahyaoglu Sut, H., & Balkanli Kaplan, P. (2015). Quality of life in women with infertility via the FertiQoL and the Hospital Anxiety and Depression Scales. *Nursing & Health Sciences*, 17(1),84–89. <https://doi.org/10.1111/nhs.12167>

Kahlor L., & Mackert M. (2009). Perceptions of infertility information and support sources among female patients who access the Internet. *Fertility and Sterility*, 91(1), 83-90. <https://doi.org/10.1016/j.fertnstert.2007.11.005>

Mascarenhas, M. N., Flaxman, S. R., Boerma, T., Vanderpoel, S., & Stevens, G. A. (2012). National, regional, and global trends in infertility prevalence since 1990: A systematic analysis of 277 health surveys. *PLOS Medicine*, 9(12), e1001356. <https://doi.org/10.1371/journal.pmed.1001356>

### **Abstract Summary:**

In this study, we developed a website to provide information and support for women with fertility problems. The website included six domains: introduction about infertility, information center, my story, discussion forum, and resources. The Facebook was used as well for women to share, discuss, obtain information, and release stress.

### **Content Outline:**

- Introduction
  1. The prevalence rate of infertility was high in Taiwan.
  2. Infertility brings stress and affects quality of life of those who have fertility problems.
  3. Although very few studies had done on effects of support on stress management for infertile women, support was found to be able to moderate the negative effects of stress on psychological distress and increase pregnancy rate of infertile women.
  4. Anonymous online support might be a good and convenient way to provide support for women with fertility problems.
  
- Body
  1. The purpose of the study was to develop the Planned Pregnancy Source (PPS) website to provide information and support for females with fertility problems.
    1. Three experts in the fields of obstetrics/infertility and nursing were invited to design the website.
    2. After a preliminary construction of the website, 20 women underwent fertility treatments were invited to navigate and use the website and interviewed for their comments about the website.
  2. The website was developed and tested.
    1. The website included six domains: introduction about infertility, information center, my story, discussion forum, and resources.
    2. The information center included pregnancy, infertility, and stress management module.
    3. Anonymous infertility stories were posted in the "my story" module after getting permissions from the participants.
    4. The private Facebook group was linked to the website for women to share and discuss their experiences and questions. The research team checked and responded to all questions and comments every day.
  
- Conclusion
  1. The website provided women with fertility problems a place to share, discuss, gain information, and release stress.
  2. Regardless how information is provided, it is important to use the language that the users can understand.
  3. Pictures and graphs can be used to make the program attractive.
  4. Online voice discussion group may be another way to help women with fertility problems to share their experiences and gain support.

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