

# Development of a Web Contents for Information Service System for Mental Health Management in Korean Immigrants

Jeongyee Bae<sup>†</sup>

<sup>†</sup>Department of Nursing, Inje University, Busan, Korea

## Summary

The purpose of this study is to describe the development of a web contents for information service system for mental health management in Korean immigrants using a user-centered. Research process includes the need assessment, analysis, and development. Our program is to diagnose and manage mental of Korean immigrants, especially depression, somatization, anxiety, obsessive-compulsive, interpersonal sensitivity, hostility and paranoid ideation. Mental health promotion class includes the method to get rid of stress, stretching & exercise, music therapy, relaxing therapy, meditation, massages, meditation, drinking herb tea, rational thought replacement, increasing self-confidence, laughter therapy, anger management, assertiveness training, bibliotherapy, and self-help group. The second phase of this project includes a development of a web-based information service system for mental health management in Korean immigrants.

**Key words:** *Acculturation, Immigration, Mental Health Promotion*

## 1. Introduction

According to Toronto's Yonhap News [1], new immigrants in Canada are physically and mentally vulnerable, and they suffer from various mental health problems such as depression, stress, loneliness and despair. However, governments as well as medical institutions consider this a common migration phenomenon during the process of acclimation to a new country [2].

Immigrants can go abroad to gain a more convenient life, but instead encounter immigration-related stress that fuels posttraumatic stress disorder, depression, drug abuse and even suicide [3]. Oei and Kwon [4] evaluated the immigrant depression model and found that stressful life events cause depression and anxiety among the immigrant populations. Therefore, government and medical agencies should be more concerned about migrant mental health and foster a climate where mental health problems of immigrants are recognized and services provided.

A web-based, mental health management system is one potential solution to this problems. For example, a study by Selmi et al[5] demonstrated that patients found

computer-based treatment acceptable and that they manifested degrees of clinical recovery similar to those who received face-to-face therapy.

The Internet has become a favored source of health information in Korea. Worldwide, about 45% of all Internet searches are for health-related information [6]. Computers and Internet-based programs have great potential to increase the cost-effectiveness of psychological assessment and treatment [7].

The purpose of this paper was to describe the development of a web contents for information service system for mental health management in Korean immigrants using a user-centered.

## 2. Methods

The user-centered system development included needs assessment, analysis, design/development/testing, and application release, as shown in Figure 1. This model was loosely based on guidelines suggested by Mayhew [8] and Kinzie et al [9].

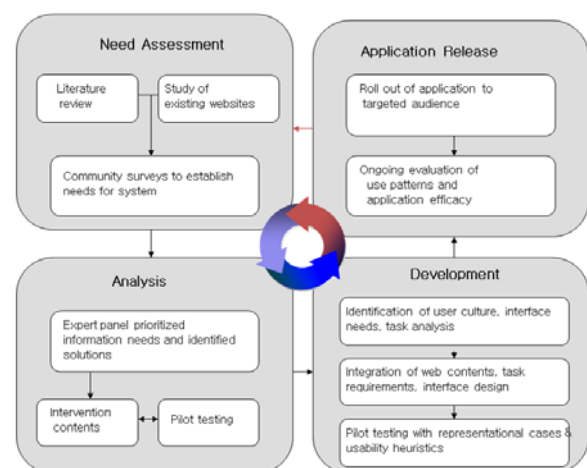


Figure 1. User-centered model

Following the principles of user-centered design ensures

that the needs of the end users are best met and the resulting application is truly user friendly [9]. This approach focuses on the users' perspectives and experiences throughout the software development lifecycle. This may result in a product that does not adequately meet the needs of the final audience. By identifying the correct end users and including them in every stage of development, from initial needs analysis to usability testing of prototypes, the efficacy of the accomplished product may be more assured [10].

The first step in this process was conducting a needs assessment to determine recent research trends and elucidate the current state of management programs for mental health both in Korea and abroad. Mental health-related programs and Internet sites in Korean immigrants were looked up using the popular search engines (naver, daum, yahoo, google), a site focused on reporting search engine rankings in Korea. Few of the web sites focused on supporting for acculturation or managing mental health problems.

To determine the common mental health problems among Korean immigrants so that the content could be appropriately tailored, and to confirm that a problem was needed for mental health management, the researchers assessed the degree and characteristics of the mental health problems. This preliminary assessment study included 716 Korean immigrants living in Canada and America. The measurement tool utilized in this study was the SCL-90 developed by Derogatis & Govi [11]. SCL-90 is a self-report questionnaire consisting of 90 items. The internal consistency coefficient, Cronbach's alpha, was 0.90-0.98.

Mental health problems among the Korean immigrants included acculturation, loneliness, discrimination, anxiety, depression, somatization, interpersonal conflict, cultural differences, low self-esteem and parenting stress. Korean immigrants were interviewed about their most critical problems and their needs for intervention using a qualitative research approach. They were asked about their immigration experience, emotional problems, and information needs related to mental health management. The interviews were audio taped, transcribed, and analyzed using grounded analysis. The identified themes included motivation, confronting, suffering, efforts to adapt, assimilation, and conflict. Korean immigrants suffered physical, psychological, sociological and economic dilemmas. They suffered psychological symptoms such as fear, helplessness, anxiety, depression, uncertainty, oversensitivity and low self-esteem. These symptoms were considered very important with respect to the selection of web-based interventions

Focus group interviews were conducted to prioritize mental health problems, management goals, and intervention methods. The focus group comprised of

twenty participants including 5 psychiatric mental healthcare professionals, 5 immigrants who lives Canada and America. Through this focus group interview, goals of the program were centered on raising awareness of the importance of managing mental health problems, to provide evidence-based interventions, and to promote mental health.

Table 1. Prioritized problems, goal, and intervention methods

Prioritized problems	Management goal	Intervention methods
Depressed mood: feeling blue, powerlessness, sad, decreased motivation, tired, unmotivated	Recover energy and mood drop	Exercise Horticulture therapy Music therapy Laughter therapy
Worthlessness: doubtful of their life, feeling emptiness	Decrease feeling of emptiness	Rational thought replacement Increasing self-confidence Exercises Horticulture therapy Visualization
Emotional instability: feeling angry easily, impatient	Emotional stabilization	Relaxation method Massages Meditation Drinking herb tea
Inferiority: no confidence, wrong doing	Increase self-esteem and self-confidence	Rational thought replacement Increasing self-confidence Visualization Assertiveness training Art therapy Music therapy
Suicidal need: no hope, wants to kill oneself	Suicidal prevention	Supportive counseling Family therapy Anger management
Interpersonal relationship problem: difficulty in relationship formation, withdrawal	Improve interpersonal relationships	Anger management Assertiveness training Bibliotherapy Self-help group

### 3. Results

Web content was developed based on prioritized feedback from the focus group sessions; initial content included an introduction, information about mental health, self-assessment about level of mental health and guidance, interventions for improving mental health, directory of self-help groups, and counseling and additional community resources.

Mental health promotion class contains the interactive improvement to overcome the problem. And as the result of the mental health problems diagnosis, if the respondent has problems, then the system leads him/her to mental health promotion class. Mental health promotion class

includes the method to get rid of stress, stretching & exercise, music therapy, relaxing therapy, meditation, massages, meditation, drinking herb tea, rational thought replacement, increasing self-confidence, laughter therapy, anger management, assertiveness training, bibliotherapy, and self-help group. Resources class includes domestic and international organizations or sites. Each intervention program was fully described in an easy-to-understand approach, meant for layman's comprehension and at the same time, interactive style was applied so as to keep the end-user hooked and interested.

Table 2 presents the results of the web contents for information service system for mental health management in Korean Immigrants.

Table 2. Web page content for mental health management in Korean Immigrants

Main menu	Submenu	Contents
Menu	Start page	Introduction about web-page User guide and menu
Important of mental health management in immigrants	Common issues in Korean immigrants	Education about important of mental health management in immigrants
Major mental health problems in adolescents	Acculturation, loneliness, discrimination, anxiety, depression, somatization, interpersonal conflict, cultural differences and low self-esteem, parenting stress	Information service about definition, frequency, symptoms
Self-examination	Basic data input	Assessment about basic data
	Check scales	Self examination level of mental health states
	Feedback of the result	Examination result feedback and coping method guideline
	Statistics	Provide of all user's data and analysis
Methods of mental health management	Principle of good mental health	Guide for promote mental health and prevention of problems
	Stress relieve method	Methods of stress relieve
	Anxiety relieve method	Methods of anxiety relieve
	Relaxation method	Jacobson's relaxation method biofeedback
	Aromatherapy	Effect and method of aromatherapy
	Meditation	Effect and method of meditation
	Visualization	Effect and method of visualization
	Music therapy	Explain about effect and method of music therapy and off the therapeutic music via real play
	Stretching & exercise	Effect and method of stretching & exercise
	Massages	Effect and method of massages
	Assertiveness training	Effect and method of assertiveness training
	Anger management	Effect and method of anger management
	Rational thought replacement	Effect and method rational thought

		replacement
	Laughter therapy	Effect and method of laughter therapy
	Drinking herb tea	Effect and method of drinking herb tea
	Bibliotherapy	Effect and method of bibliotherapy
Parents page	Parents education	Parents education
Self-help group	Self-help group	Self-help group for information exchange and support
Counseling	Counseling	Online directory of supportive counseling
Hyperlinked on Internet sites of resources	Mental health agencies	Online directory of counseling agencies and mental health agencies for immigrants

#### 4. Conclusion

Because of globalization, the rate of immigration is rapidly increasing, resulting in about 7 million Koreans living overseas. Most Koreans living overseas are first 1 and ½ generations who have difficulties getting used to the culture of their new home country, which often results in health problems due to cultural conflicts.

Many immigrants are becoming physically and mentally vulnerable, suffering depression, stress, loneliness, despair and helplessness or other mental health problems. However, concerned medical authorities or even the government itself are likely to dismiss these problems and treat them as common symptoms resulting from the immigration process that will eventually pass overtime.

Although the stress and anxiety experienced by immigrants during the process of migration is beyond imagination and can be serious if not treated correctly, immigrants are likely to hide their mental health problems due to either fear of being thought of as a psychotic patient or lack of medical information and preparation of mental health. It is not easy for people to visit medical institutes because of communication barriers, limits of medical insurance and lack of information. Moreover, people tend to feel more uncomfortable towards the treatment of mental problems because of varying methods of treatment of different cultures of the world. Therefore, the researcher has created this program to help overseas Koreans live a more peaceful immigrant life by self-managing their mental health states easily using the Internet, anytime and anywhere.

This paper reported one way of developing and implementing web-based contents for management of mental health problems in immigrants. One outcome of this work was a user-centered design for enabling general populations, who have slight computer skills, to more effectively participate in Internet-mediated health care

programs. Upon the application of the user-centered design principles, this site became culturally sensitive to its target population; thus making healthier assessments and more accurate findings.

The second phase of this project includes a development of a web-based information service system for mental health management in Korean immigrants.

#### Acknowledgment

This work was supported by the National Research Foundation of Korea(NRF) grant funded by the Korea government(MEST) (No. 2010-0000236)

#### References

- [1] New Immigrants in Canada. (17 October 2006). New immigrants in Canada. Toronto Yonhap News. Retrieved June 10, 2008, from <http://english.yonhapnews.co.kr/news/0200000001.html>.
- [2] Saldanha, A. (2009, August 2). Land of milk and honey. The Korea Times. Retrieved October 10, 2009, from [http://www.koreatimes.co.kr/www/news/opinion/2009/10/162\\_49471.html](http://www.koreatimes.co.kr/www/news/opinion/2009/10/162_49471.html).
- [3] Hoschl, C., Ruiz, P., Casas, M., Musalek, M., Gaebel, W., & Vavrusova, L. (2008). The impact of migration on mental health and mental illness. *European Psychiatry*, 23, S42.
- [4] Oei, T. P., & Kwon, S. M. (2007). Evaluation of the integrated cognitive model of depression and its specificity in a migrant population. *Depression and Anxiety*, 24, 112-113.
- [5] Selmi PM, Klein MH, Greist JH, Sorrell SP, Erdman HP. Computer-administered cognitive-behavioral therapy for depression. *Am. J. Psychiatry*. 1990; 147: 51-56.
- [6] Janet M, Morahan-Martin J. How Internet Users Find, Evaluate and Use online-health information: A Cross-Culture Review. *CyberPsychology & Behavior*. 2004; 7: 497-510.
- [7] Proudfoot J, Goldberg D, Mann A, Everitt B, Marks I, Gray JA. Computerized, interactive, multimedia cognitive-behavioral program for anxiety and depression in general practice. *Psychol. Med.* 2003; 33: 217-227.

- [8] Mayhew, D.J. (1999). The Usability Engineering Lifecycle: a Practioner's handbook for user interface design. San Francisco: Academic Press.
- [9] Kinzie M.B., Cohn W.F., Julian M.F., & Knaus W.A. (2002). A user-centered model for web site design: needs assessment, user interface design, and rapid prototyping. J Am Med Inform Assoc, 9(4), 320-30.
- [9] Kinzie M.B., Cohn W.F., Julian M.F., & Knaus W.A. (2002). A user-centered model for web site design: needs assessment, user interface design, and rapid prototyping. J Am Med Inform Assoc, 9(4), 320-30.
- [10] Samaras, G. M. & Horst, R. L. (2005). A systems engineering perspective on the human-centered design of health information systems. J Biomed Inform, 38(1), 61-74.
- [11] Derogatis, L. R., & Govi, L. (1973). An outpatient psychiatric rating scale preliminary report. Psychopharmacology Bulletin, 9, 13-27.



**Bae Jeong-Yee** received the B.E. and M.E. degree from Seoul National Univ. in 1984 and 1987. And she received his Ph.D Degree from Ewha Univ., in 1996. She is now the professor in Inje Univ. in Korea. Her research interests are Medical Informatics. She is a member of KOSMI.