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ORIGINAL PAPER

The Effect of Education on Blind Women's Empowerment in Reproductive Health: a Quasi-experimental Survey

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ABSTRACT

Background: *As blind women have usually been known as a group at risk, they should be necessarily considered to a larger extent in health consulting programs. Therefore, the present survey was aimed to investigate blind women empowerment toward sexual and reproductive health care.*

Methods: *A quasi-experimental study was conducted on all 26 blind women covered by the Blind Society in the Azerbaijan province. A researcher-made questionnaire was run to collect data using an interview that included knowledge, attitude and behavior items. Intervention was done in two days, and all participants were followed-up for two weeks after intervention.*

Results: *Subjects had a mean age of 36.84±9.8 years. Overall, 42.3% of them were blind women and 57.7% had low vision. Women knowledge score about menstrual health, healthy fertility, sexually transmitted diseases and pregnancy was 2.7±1.03, 1.2±0.9, 2.4±0.81 and 3.6±1.2, respectively before intervention, and it has increased significantly to 3.7± 0.51, 2.±0.7, 3.7±0.45 and 4.8±0.32, respectively after intervention ($p<0.0001$). In brief, results revealed that, on average, subjects' attitude was also remarkably better, as the score rose from 21.07±3.17 before intervention to 25.26±3.24 after interventions ($p<0.0001$).*

Conclusion: *It seems that participants were poorly aware of reproductive health, but providing education on reproductive and sexual health was likely to be useful for this group; moreover, it should be prioritized in joint programs of medical universities and welfare institutions.*

Keywords: blind women, reproductive health, disabled women.

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INTRODUCTION

Improving reproductive health plays an important role in women's health. Reproductive health includes all critical factors of family health, especially women and girls from birth to death. According to the document issued by the International Conference on Population and Development held in Cairo in 1994, reproductive health has been defined as "physical and mental health as well as social well-being" consisting in all aspects associated with reproductive system, process and performance. Women's reproductive health in developed countries has largely been improved, significantly due to social changes and developments in technology and knowledge of people in the recent decades; however, in developing world, there are still numerous problems regarding reproductive health as a result of poor public awareness (1).

Ethical care also plays an important role to save lives, especially in the area of reproductive health. Many human communications involve interaction with vulnerable people (2). Since blind people are known as a vulnerable group, more attention should be paid to them and their needs should be prioritized in reproductive health counseling programs. Visual impairment and blindness highlights health and socioeconomic problems, especially in developing countries (3).

According to the World Health Organization (WHO), every five seconds someone becomes blind across the world (4), 35 million people are nearly blind, and 128 million people have different types of vision defects worldwide (5). In Iran, it is estimated that about 1% of the population is blind (6).

Reproductive health requirements of women with physical-motor impairment have generally been ignored, which is likely to be caused by the assumption that women with disabilities are not sexually active and do not necessarily need reproductive health care (7). The countries participating in the Conference on Population and Development classified reproductive health in the category of human rights and aimed to provide public with reproductive health services by 2015 (8). Laner-Abass (2008) showed there were no studies on the level of health information of disabled people comparatively to that of healthy people. We are aware of the various obstacles faced by persons with disabilities to collect health information. The aforementioned fact is completely obvious in reproductive health of disabled women (2). People with disabilities need reproductive and sexual health services at all stages of life as all other persons. Different age groups face several challenges, and in adolescence they need information regarding changes in body and feelings, self-care and necessary training to prevent sexual abuse and violence. Health care providers must provide people with disabilities the same support as non-disabled persons. Providing services to this disadvantaged group of people is mostly difficult because health advisers and parents often do not know how to ask it (9).

The vast majority of disabled population is usually ignored and deprived from freedom and human rights (9). Information on reproductive health of people with disabilities is not generally considered. Also, they do not have the right to decide for communicating and marriage, and are forced to sterilization, abortion, marriage (10); also, they experience sexual, physical and emotional abuse and all forms of violence, being at risk of sexual transmitted diseases and HIV (11).

To the best of our knowledge, there is only few research on reproductive health education in blind women, so the current survey was aimed at investigating the effect of education on knowledge, attitude and performance of blind women about reproductive health. ❑

METHODOLOGY

This is a quasi-experimental study that was conducted on women with blindness and low vision covered by the Society for blind people located in Western Azerbaijani in 2017.

Sample size and input factors

Samples of 30 women with blindness and low vision were considered for our survey. Inclusion criteria were as follows: 1) presence of blindness or low vision; 2) Iranian origin and 3) age range 18–49 years. Unwillingness to cooperate and absence from training sessions were deemed as exclusion criteria.

Tools

A researcher-made questionnaire comprising demographic characteristics, knowledge, attitude and behavior questions was used.

Questions on knowledge consisted in 16 items about menstrual health, healthy fertility, sexually transmitted diseases, prenatal care and reproductive health, that ranged from 0 to 16 (scored 1 for 'true' and 0 for 'false' and 'I don't know').

Questions on attitude included 10 items in the form of three-point Likert scale ranged from 10 to 30, and questions on behavior comprised eight items that ranged from 0 to 8 (scored 1 for 'yes' and 0 for 'no'). Questions about pregnancy, menstrual health, Pap smear, breast examination and individual health were also included.

The researcher-made questionnaire was designed by using similar studies and scientific texts, and its content and structure was approved by eight professors of the Midwifery Department. In all items, the estimated content validity ratio (CVR=0.83) and content validity index (CVI=0.78) were in accordance with the standard values, and the form of the questions for each section was finalized. The reliability of questions in this section was assessed by means of Chronbach's alpha on a separate group of 30 people and the internal contingence (Chronbach's alpha) of the questions was 0.76 for attitude, 0.91 for behavioral and 0.87 for knowledge.

The educational package was consistent with the scientific references provided by researchers and was the subject of a book entitled "Reproductive health for blind women in the form of Braille".

Interventions and data collection

Interventions were implemented over two working days. Two different investigators participated in the pre-test and post-test completion of questionnaires. Samples of 30 patients were primarily recruited by phone. As only 16 subjects participated, largely because the other contacted persons were absenct, the other samples (15 patients) were separately followed-up by telephone and were invited for training. In the second follow-up, 26 participants were educated during the two days from 8 a.m. to 16 p.m. regarding reproductive health. In all sessions, blind women were informed about the aims of the study and were asked to provide a consent form. Data were collected using interviewing carried out by an educated person. The intervention regarding reproductive health, sexually transmitted diseases, menstrual health and safe motherhood consisted in mutual participation as well as question and answer meetings. All participants have been also followed-up for two weeks after intervention, and questionnaires were completed using interview by an educated person. Interventions for blind women were designed based on communication and counseling skills, genitalia models and Maquette of contraception, so that the subjects' auditory and tactile senses should be more involved in learning.

Data analysis

Descriptive analysis was utilized to explain the mean and standard deviation of study variables, and inferential statistical tests of paired t-test and independent t-test were also used through SPSS16 software. ❑

RESULTS

The mean age of participants was 36.84±9.8. Overall, 65.4% and 34.6% were single and married, respectively; 19.1% experienced pregnancy and 19 % had one or two live child, 42.3% and 57.7% were correspondingly blind and low vision. According to education, 61.5 % categorized in non-academic educationand and 38.5 % classified in academic degree. Also, 76. % and 23.1% were housewife and employed, respectively. In overall, 61.5% declared the start age of blindness was at birth. Given the economic status, 69.2%, 23.1% and 7.7% had moderate, poor and good economic condition. From underlying condition, 71.1% announced no diseases. Husband of blind women were blind, low vision and normal, 3.8, 7.7 and 23.1%; moreover, their husband's job were 19.2% and 15.4% employee and self-employment, in respect.

Kolmogorov-Smirnov test indicated normal distribution of data. Table 1 showed that women knowledge score on menstrual health, healthy fertility, sexually transmitted diseases and knowledge of pregnancy was 2.7±1.03, 1.2±0.9, 2.4±0.81 and 3.6±1.2 before intervention and increased to 3.7±0.51, 2.3±0.7, 3.7±0.45 and

Variables	Before intervention	After intervention	*P- value
	Mean±SD	Mean±SD	
Menstrual health	2.7±1.03	3.7±0.51	<0.001
Healthy fertility	1.2±0.9	2.3±0.7	<0.001
Sexually transmitted diseases	2.4±0.81	3.7±0.45	<0.001
Prenatal care	3.6±1.20	4.8±0.32	<0.001
Reproductive health	10±2.82	14.69±1.12	<0.001

TABLE 1. The mean of knowledge scores among blind women regarding reproductive health before and after intervention; *t-test

Variables	Before intervention	After intervention	*P value
	Mean±SD	Mean±SD	
Attitude	21.07±3.17	25.26±3.24	<0.0001
Behavior	6.15±1	7.11±1.03	<0.0001

TABLE 2. The comparison of attitude scores and behavior score of blind women regarding reproductive health before and after intervention; *t-test

4.8±0.32 after intervention. Paired t-test reported a significant statistical relationship in knowledge after intervention (p<0.0001). ❑

DISCUSSION

The mean age of samples (36.84±9.8) with a single proportion of 65.45% presented a significant challenge. Providing appropriate education to improve knowledge and attitude about reproductive and sexual health should be considered. In a study conducted by Amini *et al* (2012) and carried out in Zahedan, the authors aimed at exploring the relationship between visual function and quality of life for blind people; their findings showed a lower quality of life in women compared to men (p<0.001). Comparing to normal people, a lower quality of life score was recorded for dimensions related to either leisure time (p=0.009) and social (p=0.003) aspects, in people without deep vision, or self-care and physical activities (p<0.001) in persons with tunnel vision. As recommended by researchers, education and providing disabled persons with social and recreation programs seems to be beneficial especially for women (12).

At present, education on reproductive health resulted in an improvement of knowledge regarding menstrual health, reproductive health, sexually transmitted diseases and pregnancy care (p<0.001).

To our knowledge, no related study on reproductive health of blind women has been published so far. In their study on reproductive health care in physical disabled women, Abedi *et al* (2005) found that only 6% of subjects had received sexual counseling before and after marriage; of them, 81.7% were using contraception methods, 10.5% received counseling to select tailored methods, 89.5% did not receive family planning counseling, and 92.1% did not attend health centers to receive breast examinations (7).

The survey ran by Abedi *et al* was a cross-sectional study, while the present survey was a quasi-experimental and interventional study, which showed a low pre-intervention score on knowledge about menstrual and reproductive health, sexually transmitted diseases and pregnancy care.

Grieve, Richardson and Blackford (2000) found that pregnant women with disabilities had not completely received antenatal education (13). Siamian *et al* also revealed that the majority of samples (60.9%) have been offered only poor health information (14). In a study conducted by Poor Seyyed *et al*, aiming to determine the effect of life skills training program on the adaptation of blind and low vision students in Isfahan city, the total score of adaptation and its subscales were

significantly increased after intervention; besides, joining the group justified some of the changes recorded after intervention in the score of compatibility at home, health, emotional, social and total adaptation ($p<0.001$) (15). As aforementioned, education may largely improve knowledge and quality of life. At present, the increased score may be the result of education as well.

However, education did not change the attitude of blind women. In a study on attitude regarding reproductive health among women from seven provinces of Iran, Mazloumi *et al* found that subjects had a better attitude towards reproductive health (16). The survey was run on a different population, and blind women were explored compared to normal persons in the mentioned study; also, a short-term intervention (one day) was utilized, while long-term educations are more likely to be useful in changing attitude especially among disabled individuals.

Given the current results, participants' behavior score increased after intervention. In a survey on effects of education of life skills on interpersonal relationships, self-esteem and assertiveness of blind girls from Isfahan, by Sajedi *et al* reported that life skill education had a significant impact on self-esteem and assertiveness ($p<0.001$) (17). This remarkable difference may be largely due to suitable facilities for disabled in the developed world.

Limitations of the study

The small sample size made it impossible to consider a control group. The small number of articles on a similar topic was also a limitative factor. ❑

CONCLUSION

Education appeared to be beneficial for promoting knowledge and attitude changes among blind women as well as improving their awareness. Moreover, sexual and reproductive health care for blind women should be considered as a priority in joint programs of medical universities and welfare institutions. ❑

Conflicts of interest: none declared.

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