

Motivational interview on having Pap test among middle-aged women – a counseling service in primary care

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A – Study Design, **B** – Data Collection, **C** – Statistical Analysis, **D** – Data Interpretation, **E** – Manuscript Preparation, **F** – Literature Search, **G** – Funds Collection

Summary Background. Cognitive and mental factors, such as fear and embarrassment, along with the lack of counseling provision are among important barriers to uptake.

Objectives. The aim was to establish whether motivational interview could affect women's awareness, attitude and uptake of Pap testing.

Material and methods. This randomized trial was conducted on 90 middle-aged women visiting the healthcare centers of Shazand county in 2016. Sampling was done in six urban centers. Would-be participants were identified by reviewing the profiles of middle-aged women (between 30 and 59 years) who did not keep up with routine screening and who met inclusion criteria. After obtaining their informed consent, the participants were placed in two groups (control and intervention), each with 45 subjects, using randomized block design in two blocks (A and B). Data collection instruments included a researcher-made questionnaire design-based on the research topic. In the intervention group, counseling was provided, using motivational interviewing, in five 90-minute sessions. All participants completed the questionnaire at baseline and two months after the end of the study. Collected data was analyzed with the independent *t*-test, Fisher's exact test, Mann-Whitney U test and Wilcoxon test in SPSS 21.

Results. Results showed a significant difference between groups in awareness ($p = 0.001$) and attitude ($p = 0.001$) at the end of the study. Moreover, 77.8% of women in the intervention and 11.1% in the control groups chose to undergo Pap testing ($p = 0.004$).

Conclusions. Women's adherence to cervical screening can be enhanced through motivational interviewing. It is also recommended to use this method for other screening tests.

Key words: health, neoplasms, primary health care, motivation, interview.

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Background

Over 5,000,000 new cases of cervical cancer and 260,000 related deaths were recorded worldwide in 2012. Cervical cancer is the fourth prevalent type of cancer, with 90% of its related deaths occurring in developing countries [1]. Every year, 80,000 new cases of the disease are diagnosed in Africa where 250 million women older than 15 years live. In contrast, the rate is 12,000 in 170 million in America and 9,000 in 96 million in East Europe. This difference indicates that women have limited awareness and/or inadequate access to screening services [2] in developing countries [2–5].

Iran has a large population (75 million people) of which 48% were 15–65-year-old women in 2011 [6]. The incidence rate of cervical cancer in Iran is five per 100,000 women [7]. Although religion plays a role in reducing the incidence rate of this cancer in Iran [8], studies have shown increasing rates of late diagnosis and deaths in the country [9, 10]. Increased incidence and death rates also depend on screening method, starting age and screening interval [11]. Domestic studies have highlighted that Iranian women have limited knowledge about cancer screening tests, including cervical screening [12, 13]. Herein, their low adherence to routine screening appointments can also be partially attributed to their lack of access to healthcare system and follow-up [9].

Women with limited knowledge tend to have inaccurate perception of screening [5] and avoid regular uptake that is in accordance to national standard guidelines [9]. Healthcare providers' failure to offer counseling services has been identified as a cause of poor adherence among such women [14]. In addition to the lack of counseling provision [14], mental factors, such as fear, embarrassment [15] and worry [16], as well as other related issues, such as inherent costs of screening and/or lack of proper insurance coverage [9], are also important barriers to uptake. However, considering the higher significance of mental and psychological barriers compared to socioeconomic factors [11], counseling methods should be used to motivate women to undertake Pap testing and to overcome barriers to uptake [14]. In recent years, with regard to behaviour change, in health promotion programs, focus has been placed upon motivation. The need to increase motivations to change behavior is considered the key for successful healthy behaviors. According to research, although training methods increase knowledge and attitudes about the screening behaviors, in many cases, they do not result in continuous healthy practices. In addition, ways of behavior change, such as encouragement were found to be not easy to achieve and professionals have often faced difficulties in overcoming prejudices. One of the difficulties in this regard arises when the recognised authorities are uncertain about or resist against change.



In addition to stimulating people's motivation to change, motivational interviewing has special purposes, i. e. reduction of ambivalence about change and enhancement of intrinsic motivation for change. When people suffer from a subject, the problem is not always the lack of motivation; rather, there is an ambivalence toward the desired change: while they want change, they also do not want it. Motivational interviewing can overcome the ambivalence and guide individuals toward the desired change [17]. Consulting in the form of motivational interviewing creates an atmosphere where Medical professionals rather than counselors are the advocates and the primary factors of change. Furthermore, motivational interviewing acts based on the pre-assumption that many clients seeking treatment have an ambivalence state regarding change, and motivation may subside during treatment and need be re-increased and re-established. Therefore, clinicians should coordinate themselves with these changes and rather than acting against them, they should facilitate them and adjust interventions based on motivation.

Motivational interviewing is a client-directed method that strengthens and enhances the intrinsic motivation of individuals, and discovers, identifies and resolves uncertainties and ambivalence so as to induce behavior change. This strategy has been extended from addiction treatment to the fields of health, health promotion, psychotherapy, to education and to chronic disease treatment. The major objective of motivational interview is to investigate and resolve the sense of uncertainty and to trigger patient behavior change [17, 18].

Objectives

This study sought to determine whether motivational interview could affect women's awareness, attitude and intent to undertake Pap testing.

Material and methods

Methods

Study design

This randomized clinical trial was conducted on 90 middle-aged women-patients of the healthcare centers of Shazand County, Iran, in 2016.

Study setting

After registering the trial in the Iranian Registry of Clinical Trials (IRCT2016080729224N1), sampling was performed in six urban centers in Shazand. The subjects were identified by reviewing the profiles of 30–59-year-old women who met the inclusion criteria but did not keep up with routine screening (married and able to read and write but did not and were not willing to have Pap tests according to the national guideline). Out of 344 potential subjects, records indicated 150 had not undertaken Pap-testing. These women were then contacted and those who were willing to participate were asked to provide written informed consent. By simple random sampling, 90 were included to the study. Of these, two dropped out and were replaced by two individuals selected through random selection (Figure 1). A randomized block design with two blocks (A and B) was then used to allocate the selected women to the intervention and control groups ($n = 45$ each). The intervention group was subsequently divided into sub-groups with 10–12 individuals. These sub-groups participated in 90-minute counseling sessions, using motivational interviewing techniques, 2 times a week for five sessions. The validity of the sessions was assessed by two psychology and psychiatry professors at Arak University of Medical Sciences. The structure of the sessions is presented in Table 1. The sessions were held by one of the researchers who had a certificate in motivational interview. In the control group, routine education on Pap-test was conducted by the midwife of the center.

Table 1. The structure and content of the motivational interview in the intervention group

The first session	Introduction and preliminary discussions Introducing group regulations (session schedule and confidentiality matters) Informing of counseling session objectives Change cycle: determining the position of each subject based on her current behavior
The second session	Exploring positive and negative facets of maintaining or changing behavior (not having Pap testing) Brainstorming the advantages and disadvantages of a behavior: risks of not having Pap testing
The third session	Defining values and practicing value prioritization Determining the conflict between values and current behavior: effect of behavior on values
The fourth session	Investigating the intrinsic and extrinsic motivation for change Triggering personal capabilities of clients (activities showing the importance of health for clients) Practicing decision-making to balance intrinsic and extrinsic motivation Reframing and defining failures of clients from their own views
The fifth session	Summarizing practices provided in previous sessions within perspective practice and preparation for change

Materials

A two-part questionnaire was used for data collection. The first part collected demographic information, fertility information and family history of cancer. The second part focused on the individual's awareness (17 items), attitude (10 items), intention (one item) and adherence to Pap testing (one item). The questionnaire was developed based on the review of the available literature. Its content validity was then assessed by 10 qualified instructors in the fields of midwifery and fertility health. Finally, the validity of the questionnaire was confirmed after resolving some issues, clarifying ambiguities and removing problematic items. The reliability of the questionnaire was also confirmed by a Cronbach's alpha of 0.7.

The awareness items were yes/no questions, and higher scores on these items indicated greater awareness. Attitude items were scored on a three-point Likert scale (agree, disagree, no idea) and higher scores indicated better attitude. The intention and adherence items were also yes/no questions. The total scores of awareness and attitude ranged between 1 and 100. The control group received routine education from healthcare providers.

All participants completed the questionnaire at baseline and two months after the end of the study. The two groups were then compared in terms of the mean scores of awareness, attitude and adherence.

Statistical analysis

The collected data were analyzed with independent *t*-test, Fisher's exact test, Mann-Whitney U test, and Wilcoxon signed-rank test in SPSS 21.0 (SPSS Inc., Chicago, IL, USA).

Permissions and ethics

This article was a part of a Master's thesis on counseling in midwifery that was approved by the Arak University of Medical Sciences (IR.ARAKMU.REC.1395.152). The researchers deeply thank the participants, the Education Department of Arak University of Medical Sciences and all who cooperated in the study.

Results

The mean age of the participants in the intervention and control groups was 39.36 ± 5.81 and 40.42 ± 6.57 , respectively ($p = 0.138$). Moreover, the mean gravidity in the intervention and control groups was 2.29 ± 1.10 and 2.64 ± 1.45 , respectively ($p = 0.255$), while the mean parity in the intervention and control groups was 2.18 ± 1.00 and 2.38 ± 1.23 , respectively ($p = 0.492$). Other demographic information is presented in Table 2.

Table 2. Demographic characteristic of women's in intervention and control groups

		Intervention	Control	<i>p</i>
		<i>n</i> (%)	<i>n</i> (%)	
Education level	primary school	14 (31.3)	16 (35.6)	0.936
	secondary school	12 (26.7)	8 (17.8)	
	high school	14 (31.3)	17 (37.8)	
	academic	5 (11.1)	4 (8.9)	
Marriage status	married	43 (95.6)	44 (97.8)	0.559
	widowed	2 (4.4)	1 (2.2)	
Job	house keeper	41 (91.1)	42 (93.3)	0.696
	employed	4 (8.9)	3 (6.7)	
Marriage age	↓20	27 (60)	22 (48.9)	0.239
	20–30	17 (37.8)	20 (44.4)	
	30–40	1 (2.2)	3 (6.7)	
Menopause	yes	3 (6.7)	9 (20)	0.064
	no	42 (93.3)	36 (80)	

According to post-test results, the two groups had a significant difference in awareness and attitude at the end of the study (Table 3). As seen in Table 3, 88.9% of all women in the interven-

tion group and 20% of all those in the control group decided afterwards to undertake Pap testing ($p = 0.02$). Moreover, 77.8% of the intervention group and 11.1% of the control group later adhered to routine Pap testing (Table 4).

Table 3. Comparison of the Mean of knowledge and attitude in both intervention and control groups

		Intervention Mean \pm SD	Control Mean \pm SD	<i>p</i>
Knowledge	before intervention	3.57 \pm 57.6	3.89 \pm 62.7	*0.030
	after intervention	1.47 \pm 93.85	4.14 \pm 82.67	0.001*
		\pm 0.001	\pm 0.001	<i>p</i>
Behavior	before intervention	3.09 \pm 43.6	2.70 \pm 46.4	0.169*
	after intervention	1.85 \pm 61	2.86 \pm 51.4	0.001*
		\pm 0.001	\pm 0.001	<i>p</i>

\pm Wilcoxon; *Mann–Whitney U test.

Table 4. Comparison of distribution frequency of intention and behavior to Pap testing in the intervention and control groups

Group		Intervention	Control	<i>p</i>
		<i>n</i> (%)	<i>n</i> (%)	
Behavior intention	yes	40 (88.9)	9 (20)	0.020*
	no	5 (11.1)	36 (80)	
Behavior	yes	35 (77.8)	5 (11.1)	0.004*
	no	10 (22.2)	40 (88.9)	

*Fisher exact test.

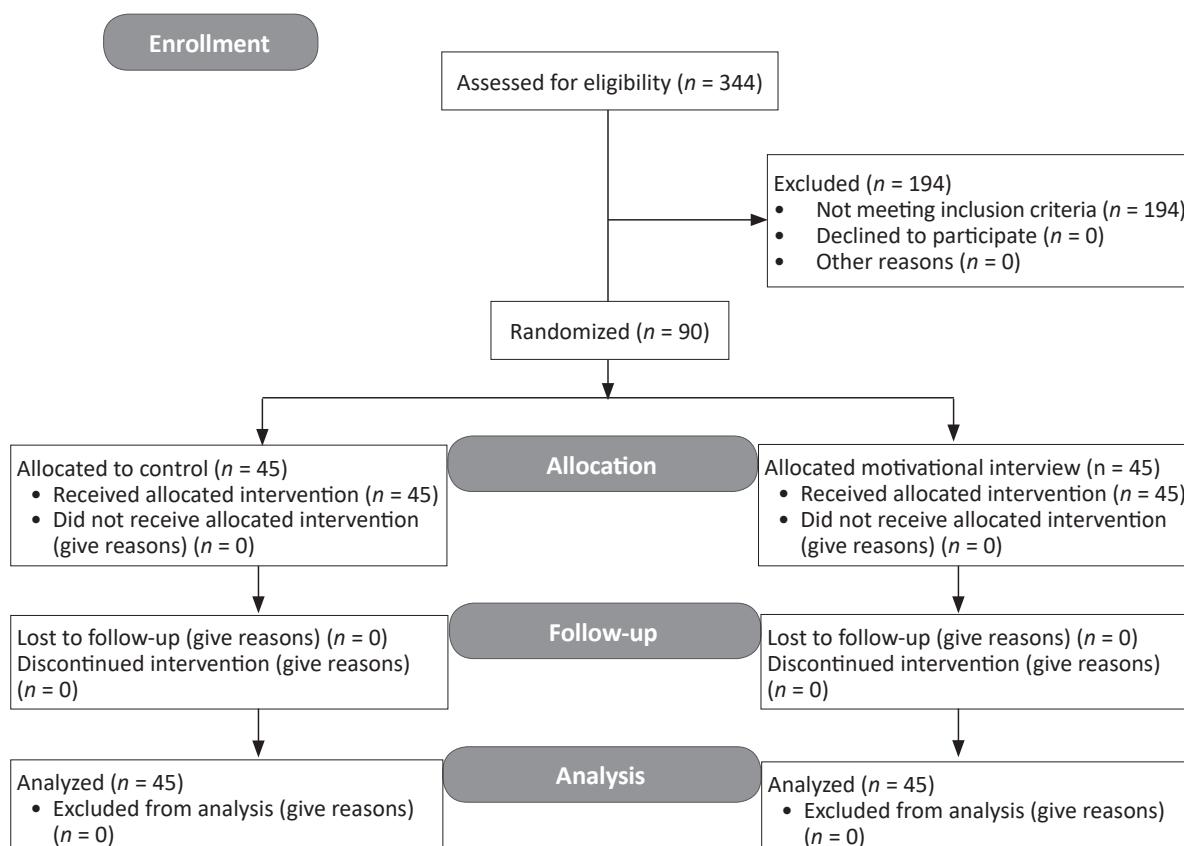


Figure 1. CONSORT flow diagram

Discussion

In Iran, Pap testing is an important screening test for early diagnosis of cancer. According to the national guideline, women older than 30 years should be included in the screening program. However, women have inadequate awareness and negative attitude towards performing the test [19]. Our findings showed that the awareness of both intervention and control groups significantly increased after participating in the study. The greater improvement in the intervention group suggested the higher effectiveness of motivational interviewing in contrast to routine education in improving women's awareness. Awareness promotion through education is desirable when it causes significant behavior change (Pap test uptake), which did not occur in the control group. In the intervention group, however, 77.8% of all women undertook the test after two months. In other words, information alone is not sufficient for behavior change and a desire for change should be simultaneously created.

Adamu et al. studied the effects of health education on awareness, attitude and free uptake of Pap testing in Nigerian women, and they showed that the mean scores of knowledge and attitude about Pap testing significantly increased after the intervention [20]. However, they did not evaluate women's adherence. Many studies have addressed awareness and attitude [4, 14], but few studies included a counseling intervention [21, 22]. Aziza et al. conducted a quasi-experimental study on 100 Saudi women and investigated the effectiveness of counseling in enhancing Pap test uptake. Their findings suggested that counseling significantly increased the rate of uptake (30% vs 100%) and promoted women's knowledge about human papilloma virus (HPV) vaccine [23]. Herein, counseling should focus on different types of fear, e.g. fear of disease outcome, and false beliefs, e.g. interference with future pregnancies [21].

Studies have suggested the lack of appropriate counseling as a barrier to regular uptake of cancer screening. Thippeveeranna et al. investigated the knowledge, attitude, and adherence of 224 nurses in India and showed that more than 98% of them had heard about cervical cancer and 18% did not have adequate knowledge about its risk factors. In addition, 11.6% of them had under taken Pap testing at least once. Previous studies have identified lack of recommendation by healthcare providers (29.9%), fear of examination (20.5%) and lack of counseling (42.8%) as the major reasons for avoiding Pap testing [23].

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Motivational interviewing can improve health behaviors by changing the motivation and attitude of clients. This study indicated that the attitude of women in the intervention group was significantly enhanced. They subsequently had greater intention to participate in screening programs and showed behavior change. The motivational interview reduced women's uncertainty and improved the uptake of health behaviors through presenting the advantages and disadvantages of adherence to a particular health behavior [17].

This study revealed that a variety of emotional and cultural factors prevent women from undertaking Pap testing. Such factors can be eliminated by providing improved services and by focusing on counseling methods. Motivational interviewing can cause behavior change and promote a particular health behavior (cervical cancer screening in this study) through involvement, recalling (i.e. fetching the patients' beliefs and adhered solutions), evoking a sense of autonomy, empathy, tolerance of resistance and self-efficacy, as well as through determining change-related and commitment-related goals to help eliminate the client's ambivalence, and increase motivation for change. Healthcare providers can, therefore, improve their patients' health by using a client-centered approach focusing on empowerment, beliefs, values, health behaviors, self-efficacy and life skills promotion [17, 24].

Limitations of the study

The one limitation is that this study was undertaken in a small city within Iran. Thus, this might affect the ability to generalize the results.

Conclusions

Generating motivation for behavior change is among the most important responsibilities of healthcare staff. Motivational interviewing is an appropriate method to accelerate changes. In addition, proper communicational skills, with regard to women, offer a golden opportunity for the provision of family healthcare services and for improvement of mental and physical condition. Women's adherence to cervical screening can be enhanced through motivational interviewing, and the method is recommended for other screening tests.

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