

Original Article

Individual Innovativeness: An Example of Midwifery of Primary Health Care Services in Turkey

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Abstract

Background: The term innovation derives from a Latin word “innovatus”, which means, “to do something new and different”. In order to achieve individual and social goals, each of us must adopt innovativeness on an individual level. Therefore, individuals should be constantly developing new ways of doing business and adopt thinking differently as a habit. This research was designed to examine the individual innovativeness levels of working in primary health care services.

Methods: This research was planned as a descriptive study. The data collection tools included the Form for Evaluation of Variables and the Individual Innovativeness Scale. No sampling from the study population was performed.

Findings: The individual innovativeness levels of the midwives ranged between 34 and 85 points, with a mean overall scale score of 60.72 ± 9.35 . The Cronbach’s alpha value of the Individual Innovativeness Scale was calculated as 0.761. There was a statistically significant relationship between individual innovativeness and educational level.

Conclusion: The overall level of individual innovativeness of the midwives was categorized as inquisitive and low in innovativeness. Higher level of education is effective in increasing individual innovativeness. The Individual Innovativeness Scale is a reliable measurement tool.

Keywords: Innovation, Diffusion of innovation, Behavior, Behavior rating scale

Introduction

The term innovation derives from a Latin word “innovatus”, which means, “to do something new and different”. It refers to “employment of new methods in social, cultural and regulatory environment” (Drucker, 1998). The concept of innovation is often confused with other phenomena such as creativity, change, invention, entrepreneurship and technology. These concepts are closely related and complementary to each other, but they do not refer to the same thing (Rogers, 2003). Innovation affords new developments in the technology as well as new

methods or ways of doing business in a better fashion (Porter, 1995).

Individual innovativeness is defined as an umbrella concept incorporating the essence of such concepts as risk-taking, openness to new experiences, creativity, thought leadership. Individual innovativeness refers to the degree of adopting an innovation by some individuals within a social system faster than others (Hurt et al., 1977). It is also defined as an individual’s willingness to adopt and utilize what is new or a positive reaction to innovation in terms of behavior (Kilicer, 2011). Individuals do not always exhibit constant innovative behavior

during their life (Tutar et al., 2007). Individuals within a community are different from each other in terms of innovation. Owing to such differences, individuals may adopt any given innovation a little sooner or later than do others or be more or less willing to change and can take more or less risk (Kilicer, 2008). People are categorized into five different groups in terms of their adoption of innovation. Depending on their dominant features, these groups are called innovators, pioneers, the inquisitive, skeptics, and traditionalists (Rogers, 2003).

Individual innovations enable individuals to lead better lives or contribute to their reshaping social structures. At the same time, they allow individuals to meet their needs, to improve their living standards and to ensure the continuous enrichment of individual qualifications (Yeloglu, 2007). In order to achieve individual and social goals, individual innovativeness should be initially encouraged. For this reason, individuals should develop new methods of performing jobs and familiarize themselves to think differently all the time (Ozdasli, 2006). Today, scientific and technological developments are influencing health care practices. The rapid change in the methods for diagnosis, treatment and medical care, differences in demographics, changing patient expectations and new regulations in the health care system require health care workers to update themselves on a continuous basis. In order to accurately identify the needs in health care services and dully address these needs, health professionals are supposed to be open to innovation, instead of resisting innovative approaches, should be able to make innovations and put such innovations into practice.

The training for midwifery, a profession as old as humanity, began with occupational courses in our country. Over time, it was given as a high school-based education and associate degree programs. Undergraduate programs began in 1998 and it gained momentum with the initiation of master's degree programs in 2000 and doctorate programs in 2013 (Council of Higher Education, 2013; Guner et al., 2015; Association of Midwives, 2015).

There are 52,351 active midwives in our country. Of these, 47,639 are working at the institutions affiliated with the Turkish ministry of health, 776 at universities, and 3,936 in the private sector. (RSHEHM, 2014). The first legal arrangement of 1928 regarding the midwives in Turkey was

revised in 1964 (Official Gazette, 1928; LSHS, 1961). In the final governing regulation dated 2014, the tasks, powers and responsibilities of midwives were reorganized. This regulation includes provisions concerning sexual and reproductive health services, management of birth process and postpartum period, emergency obstetric cases and monitoring of childcare and child development between ages 0 and 6 years (Official Gazette, 2014).

In 2003, our country launched a health reform package called "Health Transformation Program" and has been successfully implementing it since then (Ministry of Health, 2003). Under the scope of this program, a new system called "Family Practice" has been put into practice. In this system of family practice, midwives, nurses and health officers are collectively defined as "Family Health Staff" (The Law for Family Practice, 2004). Under this system of family practice, each group of 3500 people is allocated a family physician and a family health staff (midwife, nurse or health officer) who are responsible for delivering protective health services for the registered persons, as well as providing primary health care, treatment and rehabilitative services. According to this regulation, midwives, in addition to their primary tasks of mother-child health care services, are in charge of delivering preventive and curative health services, keeping records and statistics, providing wound care, laboratory services, and outpatient services as well as carrying out other duties assigned by the family physician (Governing Regulations for Family Practice, 2010).

A complete review of the relevant literature including research into individual innovativeness in our country has revealed that there have been no studies investigating the individual innovativeness levels of the midwives working in primary health care services. Therefore, this study aimed to evaluate the levels of individual innovativeness among midwives in terms of different variables.

Material and Methods

Setting and participants: Planned as a descriptive study, the research was conducted between April and May 2015 in a medium-size city in the south of Turkey. The population of the study consisted of 82 midwives working at the institutes providing primary health care services in the city center, including "Family Health

Centers”, “Community Health Centers” and “Early Diagnosis, Screening and Education Center for Cancer”. No sampling from the study population was performed. The study included a sample of 74 midwives who were actively on duty at the time of the study and who expressed their willingness to take part in the research.

Data collection technique and data collection materials:

In order to collect data, the researchers paid visits to the host centers. After obtaining verbal consent from the midwives in these centers, the data collection form was introduced. Then they were asked to fill in the data collection form when they were available. The data collection forms filled out by midwives were began to be collected three days later. The midwives who had not completed the data collection form were interviewed again two days later, and then the forms were collected from these persons. The data collection form used in this study consisted of two parts. These include the following: the form for evaluation of variables and the Individual Innovativeness Scale.

The form for evaluation of variables:

Developed by the researchers, this form consists of questions about the age, gender and profession-specific variables.

The Individual Innovativeness Scale:

In the study, we used the Individual Innovativeness Scale, which was originally developed by Hurt, Joseph and Cook (1977) and then adapted to the Turkish language by Kilicer and Odabası (2010), who also carried out its validity and reliability study. The overall Cronbach’s alpha value for the Individual Innovativeness Scale was calculated as 0.86. This scale is a five point Likert-type scale and comprises a total of 20 items. 12 of these are positively worded items and 8 of them are negatively worded. In the first step of calculating the innovativeness score, the scores for positive items in the scale (1, 2, 3, 5, 8, 9, 11, 12, 14, 16, 18 and 19) are added to each other. In the second step, the scores for negative items (4, 6, 7, 10, 13, 15, 17 and 20) are accumulated. For the calculation of overall score for individual innovativeness, the following formula is used: 42 + total score for positive items – total score for negative items. According to the resulting total score, if the participant scores 80 points, he/she is categorized as innovator, if the participant scores between 69 and 80 points, he/she is categorized as pioneer, between 57 and 68 points

as inquisitive, between 46 and 56 points as skeptic and if the participant scores below 46 points, he/she is categorized as traditionalist. In addition, if the individual innovativeness score of a participant is greater than 68 points, he/she is evaluated as highly innovative, between 68 and 64 points as moderate level innovative and below 64 points innovative at a low level (Kilicer and Odabası, 2010).

Statistical methods: In the analysis of the research data, SPSS 21.0 software package for Windows was used. Descriptive statistics were performed. In determining the relationship between individual innovativeness level and independent variables, we utilized Independent Sample t-Test and One Way ANOVA. Bonferroni correction method was used in the further analyses. For the statistical significance level of the results, a p value of less than .05 ($p < .05$) was considered significant.

Ethical considerations: Prior to conducting any research procedures, a written permission was obtained from Kilicer and Odabası via email for the use of the Individual Innovativeness Scale and then a written approval was also obtained from the Clinical Trials Ethics Committee of Suleyman Demirel University Faculty of Medicine. A verbal consent was obtained from each of the midwives to participate in our research.

Results

The midwives working at primary health care services who participated in the study were in the 25-63 age range and had a mean age of 40.58 ± 5.88 years. 87.8% of the participants were married. 31.1% of the midwives had bachelor’s degree, 50% associate’s degree, 18.9% had training below associate’s degree education. Their professional experience ranged from 3 to 43 years, with a mean time of 20.20 ± 6.31 years (Table 1).

31.1% of the midwives reported choosing this line of work because they loved the midwifery profession. At the time of our research, 74.3% reported that they loved working as a midwife. 81.1% of midwives are not a member of any professional association. The rate of attendance to courses and congresses related to the profession was 50%. 47.3% of the midwives reported that they intended to pursue their career as a midwife in the future (Table 2).

The individual innovativeness level of the midwives ranged between 34 and 85 points, with a mean score of 60.72 ± 9.35 . The overall Cronbach's alpha value for the Individual Innovativeness Scale was calculated as 0.761. The relationship between all independent

variables of the participants and their scores for the Individual Innovativeness Scale was examined. The only statistically significant relationship was found between the level of education and individual innovativeness (Table 1, 2).

Table 1. Certain variables of the midwives

Socio-demographic variables	Number	Percentage	\bar{X}	F
Age				
25-35	7	9.5	61.71±8.57	F=0.28 P=0.75
36-45	56	75.7	60.98±9.98	
46 and over	11	14.9	58.81±6.43	
Marital status				
Married	65	87.8	60.14±9.14	F=0.91 P=0.40
Single	2	2.7	64.00±11.31	
Divorced / Widowed	7	9.5	64.85±11.18	
Education				
Bachelor's Degree	23	31.1	65.52±11.59	F=4.88 P=.001
Associate's Degree	37	50.0	58.78±7.64	
Other	14	18.9	58.00±6.52	
Work Experience				
1-10 years	6	8.1	63.50±7.52	F=0.20 P=0.89
11-20 years	38	51.4	60.73±10.19	
21-30 years	26	35.1	60.15±8.62	
31 and above	4	5.4	60.25±10.71	
Total	74	100	60.72 ± 9.35	

Table 2. Professional variables of the midwives

Professional variables	Number	Percentage	\bar{X}	F/t
What is your reason for choosing this profession?				
I love this profession	23	31.1	63.95±11.11	F=1.465 P=0.23
My family encouraged me	16	21.6	58.43±9.07	
To obtain financial gains	22	29.7	60.13±8.62	
Other	13	17.6	58.84±6.42	
Do you love your job?				
Yes	55	74.3	61.20±9.41	

No	10	13.5	60.70±7.18	F=0.477
Don't know	9	12.2	57.88±11.49	P=0.62
Are you a member of any professional associations?				
Yes	14	18.9	60.64±9.49	t=-0.38
No	60	81.1	60.75±9.40	P=0.97
Do you attend professional courses and congresses?				
Yes	37	50	61.16±8.09	t=0.395
No	37	50	60.29±10.56	P=0.69
What are your future plans in relation to your job?				
Keep doing my job	35	47.3	61.91±11.15	
Do a postgraduate degree	4	5.4	64.50±7.72	F=0.978
Become an academician	4	5.4	62.75±10.30	P=0.40
I do not have any plans	31	41.9	58.64±6.83	
Total	74	100	60.72±9.35	

Discussion

Innovation is a fundamental component of both service and manufacturing industries. Owing to the fact that innovations and new developments in the field of health care have a direct impact on human life and an individual's quality of life, innovation is of more crucial importance in health care sector as compared to other sectors. Health care professionals play a vital part in the productive application of new methods and products. In this regard, the level of innovativeness among such individuals determines the factor that makes the difference. As a characteristic quality, innovativeness (i.e. the tendency to adoption of new ideas, practices or products) may be suggested to be associated with risk taking behavior, openness to new experiences, age or other different factors (Yigit and Aksay, 2015). In view of such significance of innovation, the current research aimed to investigate the relationship of individual innovativeness among the midwives working at primary health care centers with different variables.

75.7% of the midwives working in primary health care centers are in the 36-45 age range and they have a mean age of 40.58 ± 5.88 years.

Although the midwives in the younger age group who participated in our study scored slightly higher points in the individual innovativeness as compared to the older midwives surveyed, there is no statistically significant relationship ($p>.05$), (Table 1). In a study conducted with nurse leaders, the score for individual innovativeness was calculated as 60.22 points in the <50 age group, 53.69 points in the 50-59 age group, and 59.86 points in those over 60 years of age (Clement et al., 2011). Yigit and Aksay, in their study where they examined the individual innovativeness in X and Y generations, have found that younger generation may not be necessarily more innovative (Yigit and Aksay, 2015).

When evaluated in terms of marital status, the majority of midwives were married. Individual innovativeness scores of midwives who are married were found to be lower than those of the single ones. There was no statistically significant relationship between marital status and individual innovativeness ($p>.05$), (Table 1).

A 31.1% of the midwives surveyed had a bachelor's degree. There was a statistically significant relationship between higher educational level and individual innovativeness

level, which stemmed from the fact that the midwives with a bachelor's degree had higher scores for individual innovativeness ($p < .05$) (Table 1). In the study carried out with nurse leaders, the participants with a B.Sc. or lower degree had a mean score of 57.92, M.Sc. degree 50.50, and PhD 63.83 for individual innovativeness (Clement et al., 2011). It might be asserted that higher educational level increases individual innovativeness.

Of the midwives who took part in our study, 51.4% had a work experience ranging from 11 to 20 years. Although those with less experience had higher scores for individual innovativeness, there was no statistically significant relationship ($p > .05$), (Table 1). In the before-mentioned study in nurse leaders, Clement et al found that those with a work experience less than 5 years had a mean score of 58.06, while those with a work experience ranging between 5 and 10 years had a mean score of 60.20 and those with over 10 years had the highest score with 61.40 points (Clement et al., 2011). Based on the results of this research, we may suggest that it would be an erroneous interpretation to deduce that individual innovativeness increases or decreases with work experience.

In our study, the ratio of choosing the midwifery profession out of sheer love of the job was calculated as 31.1%. The scores for individual innovativeness was higher among those reporting that they chose this line of work as they loved the profession of midwifery, but no statistically significant correlation was found. 74.3% of the midwives reported that they loved their profession. The nurses who loved their profession had higher levels of individual innovativeness than do others, though this relationship was not found statistically significant ($p > .05$), (Table 1). While it is a positive thing that those who chose the midwifery profession out of love of the job and those who reported loving their profession had a higher individual innovativeness levels than others, they still had low levels of innovativeness.

The rate of membership to a professional association among the participants was found as 18.9%. There was no statistically significant relationship between being a member to professional associations and individual innovativeness ($p > .05$), (Table 1). It might be suggested that the ratio of being a member to

professional associations is relatively low among midwives.

Fifty per cent of the participants stated that they attended vocational courses and congresses. We found no statistically significant relationship between the participation in vocational courses and congresses and individual innovativeness ($p > .05$), (Table 1). It can be said that about half of the midwives surveyed attend scientific events to improve their personal and professional development.

Of the participating midwives, 47.3% intended to pursue their career as midwives in the future. Despite slightly higher scores for individual innovativeness among the midwives who reported intention to do post-graduate degree, there was no statistically significant correlation ($p > .05$), (Table 1). We may suggest that the midwives who plan to do their current job in the future have a low level of innovativeness.

The individual innovativeness level of the midwives taking part in our research was found to range from 34 to 85 points, with a mean score of 60.72 ± 9.35 . We may categorize their individual innovativeness into the inquisitive group, which means they have low tendency to adopt innovation. In their study conducted in a sample of 274 people, Yigit and Aksay determined that physicians had a mean individual innovativeness score of 71, nurses 64.45, technicians 63.46, and other health professionals 65.34 points (Yigit and Aksay, 2015).

The Cronbach's alpha value for the Individual Innovativeness Scale was calculated as 0.761. Therefore, the Individual Innovativeness Scale was considered as a reliable scale.

Conclusions

Today, scientific and technological developments have a huge impact on health care practices. In order to achieve individual and social goals, adoption of innovation on the individual level is of vital importance. Individuals should focus on life-long personal development and familiarize themselves to thinking different. According to the findings of the current research, we may conclude that the individual innovativeness of the midwives is in the inquisitive category, where their overall innovativeness is accepted as low. Increasing the educational level may be suggested to enhance individual innovativeness. In addition, the Individual Innovativeness Scale can be used as a reliable tool of measurement.

Based on the results our study, the following improvements are recommended: A review of the assigned positions and tasks for the health personnel currently working at health care institutions and organizations, along with relevant legislative arrangements,

- Standardization of vocational training,
- A complete review of the course contents in undergraduate education,
- Encouraging innovative thinking among students,
- Institutes allow individuals to implement their innovative ideas and concepts,
- Repetition of the research in larger and various samples.

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