



Organizational Activities in Nursing Research Transfer from Viewpoint of Nurse Educators in Iranian Universities of Medical Sciences

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ABSTRACT

Background: Transferring research-based knowledge into practice would help to maximize the quality of health care. However, the role of knowledge producers and the organizational roles related to knowledge transfer have been largely ignored.

Objectives: This study was accomplished with the aim of describing the organizational activities needed to transfer the findings of nursing research from the viewpoint of nurse educators in Iranian Universities of Medical Sciences.

Patients and Methods: This descriptive study was carried out with participating 279 nurse educators of medical sciences universities. Data were collected using Knowledge Translation Self-Assessment Tool for Research Institutes (SATORI).

Results: Nursing faculty members evaluated the organizational activities of transferring the knowledge of nursing research at the "medium" level and for the domains of "the question of research" and "promoting the use of evidence" at a "weak" level and in the domains of "knowledge production" and "knowledge transfer" at a "medium" level.

Conclusions: Organizational activities related to the knowledge transfer of nursing research are demonstrably low (medium at best). It is recommended that in each faculty and with the participation of all faculty members, the research transferring procedure should be assessed and all necessary changes needed to improve the research transferring procedure should be implemented.

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► Implication for health policy/practice/research/medical education:

Policy makers and programmers in the Universities of Medical Sciences should implement changes in their organizational activities in order to knowledge transfer of nursing research is facilitated and put into practice.

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1. Background

The ultimate goal of research and the development of nursing scientific knowledge is to provide fundamental knowledge in order to maximize the quality of nursing care (1). Currently, evidence-based practice has attracted attention in all types of health care services (2). Research affects clinical practice and its related issues through providing solutions and insights (3) while paving the way for more effective care of patients (4). During the last two decades, scientific publications have grown in Iran similar to other countries (5), and the number of medical science papers which have been published from 1997 to 2001 in ISI journals have doubled (6). However, there still is a gap between results of the research and their implementation (7). The consensus is that the transfer of knowledge is not optimally done or used as such (8). Valizadeh and Zamanzadeh in Tabriz and Adib-Hajbaghery in Kashan showed the positive attitude of nurses toward research (7, 9). Nevertheless, the study of Valizadeh and Zamanzadeh in Tabriz indicated the low level of conceptual and instrumental use of research findings among the nurses under study (10). Most of the studies performed in Iran have focused on the staff level and knowledge using organizations such as nurses and hospitals (11, 12) however the character of knowledge producers and the facilitating structure of knowledge transfer has been ignored (8, 13). For this reason, in the current study, nursing faculties and their faculty members have been considered.

2. Objectives

The current study was meant to describe the status of organizational activities in transferring the results of nursing research from the viewpoint of faculty members of nursing universities in Iran.

3. Materials and Methods

The current study was a descriptive survey performed by the participation of nursing faculty members of Iranian Universities of Medical Sciences. Data gathering was done through Knowledge Translation Self-Assessment Tool for Research Institutes (SATORI), and developed and validated by Sadighi et al. (8). This tool has fifty items including twelve items on the ability to make “the question of research”, nine items on “knowledge production”, twenty five items on “knowledge transfer”, and four items on “promoting the use of evidence”. All items are answered in a five choice Likert scale, with options ranging from ‘the situation is good and needs no intervention = 5’ to ‘the situation is quite unfavorable and there is an urgent need for intervention = 1’. Content validity of the tool was evaluated with the assistant of experts (15 faculty members of nursing) and reliability was measured by test retest method on 10 faculty members (correlation coefficient = 0.87). Considering the number and the national rank of the universities, four nursing and midwife-

ry faculties were randomly selected from the top rank universities, as well as twelve faculties from rank two and seven faculties from rank three universities. Following confirmation of the institutional review board and the research ethics committee, researchers invited the faculty members to participate in the survey by sending official letters to the head of the selected nursing faculties and explaining the purpose of the study. In the cover letter, enclosed with the questionnaire, researchers highlighted the goals of the study and the required information as well as guaranteed the secrecy of the information and also their autonomy to resign or to voluntarily participate. Survey representatives in each faculty distributed the determined number of questionnaires randomly among nursing faculty members and collected them after two weeks. The questionnaires were completed by the self-reporting method. Four hundred questionnaires were sent, out of which 279 questionnaires were completed and returned by nursing faculty members. SPSS version 13 was used to analyze the data. The average ranging 1-2.33 was considered as weak, 2.34-3.66 as medium and 3.67-5 as good.

4. Results

The study was conducted with the participation of 279 nursing faculty members countrywide. Out of 279 participants in the current survey, 23.3% were from rank one, 51.3% from rank two and 25.4% from rank three universities. Moreover, 55.5% of participants were female, 95.78% were full time faculty members, and 88.37% were master degree holders. Just 28.1 % had the experience of membership in research councils of the faculties and 38% had the experience of cooperation with research institutes. Tables 1, 2, 3, and 4 indicate organizational activities of transferring the research. Domain items, average of each item, and also the dimension average results are shown in the tables. The total average of dimensions was 2.40 ± 0.71 (the 95% confidence interval was 2.32-2.48). In Table 5, twelve upper and lower items from all 50 items are shown in descending order.

5. Discussion

Nursing faculty members participating in the current study evaluated the organizational activities of transferring the knowledge of nursing research at the medium level and for the domain of making “the question of research” and “promoting the use of evidence” at weak level as well as in the domain of “knowledge production” and “knowledge transfer” in the medium level.

In Iran, two studies have been conducted to evaluate the organizational activities of transferring the research in Tehran and Golestan Universities of Medical Sciences (14, 15), nevertheless these studies have not focused on nursing. According to the ideas of participants in the current research, the most important items to be upgraded

Table 1. The Mean Score and Standard Deviation for Each Statement in Domain of 'Question of Research'

Statement (Ascending Order)	Mean ± SD
Proving a complete list of the organizations which are the main users of the results of the studies	1.86 ± 1.19
Facilitating the process of absorbing the outside university budgets to encourage researchers use of other sources	1.87 ± 1.18
Our organization holds regular and purposeful meetings with research users for extending cooperation and using mutual capacities	2.03 ± 1.14
Existing encouraging mechanisms for absorbing research grants from organizations out of the faculty or the university	2.08 ± 1.29
Our organizations' research priorities are determined through meetings with executive organizations' representatives and/or users of research results	2.14 ± 1.22
Identification of research priorities through regular meetings with individuals and research-using organizations	2.17 ± 1.21
Simplicity of using the external resources in the research activities	2.20 ± 1.28
Individuals and research user organizations know which fields our organizations' research capacities cover	2.20 ± 1.34
Existence of a databank for introducing the nurse researchers and their capabilities to other organizations	2.24 ± 1.29
Incentives exist for our researchers for securing external funding	2.46 ± 1.31
An up-to-date list of our faculty's research priorities is available to the organizations' researchers	2.65 ± 1.33
Availability of facilities to inform other organizations about our research priorities	3.09 ± 1.26
Total Mean ± SD for Making the 'question of research'	2.24 ± 0.82

Table 2. The Mean Score and Standard Deviation for Each Statement in Domain of 'Knowledge Production'

Statement (Ascending Order)	Mean ± SD
Appointing specific budget to publish the results, in addition to publishing in peer-reviewed journals or participation in congresses	2.20 ± 1.35
Participation of groups which use results of the research in planning and conducting research	2.27 ± 1.18
Researches with possibility in production of 'high levels' and 'applicable' evidence are considered as high priorities	2.32 ± 1.21
Existence of quality assurance program for each research in the faculty	2.55 ± 1.26
Trust of research results users to the quality of the researches done in the faculty	2.66 ± 1.36
Conducting quality assurance controls for all research projects	2.74 ± 1.26
Existence of a short time between 'presentation of the research proposal' and 'beginning of the research'	3.08 ± 1.10
Researchers' focus on timely ending of the research plans	3.30 ± 1.04
Existence of a short and reasonable time between 'end of research' and 'presenting its final report'	3.31 ± 1.12
Total Mean ± SD for 'knowledge production'	2.68 ± 0.76

in "the question of research" were as follows: "proving a complete list of the organizations which are the main users of the results of the studies, and facilitating the process of absorbing the outside university budgets to encourage researchers to use the outside university sources". Moreover, in the domain of "knowledge production": "appointing specific budget to publish the results, in addition to publishing in peer-reviewed journals or participation in congresses, and participation of groups which use results of the research in planning and conducting research" were considered as the most important items to be upgraded. In "knowledge transfer":

"providing a guideline to faculty to determine which of the results should be transferred to the groups with more audiences" and in "promoting the use of evidence": "making strategies for strengthening evidence-based decision making by the programmers and officials" were considered as the most important issue to be improved.

In conclusion, there is a need to develop the interaction between beneficiaries, customers, shareholders and knowledge users and also to improve the necessary infrastructures to transfer the research from the producing organizations to the users. Therefore, the researcher should be able to communicate effectively (16). Qorbani et al.

Table 3. The Mean Score and Standard Deviation for Each Statement in Domain of 'Knowledge Transfer'

Statement (Ascending Order)	Mean \pm SD
Providing a guideline in faculty to determine which results should be transferred to the groups with more audiences	1.84 \pm 1.06
The organization's regular communication with public and private media and target audiences for transfer of research results.	1.92 \pm 1.04
Existence of intellectual property rights	1.98 \pm 1.15
The researchers' estimation of the extent to which decision makers utilize the research results	1.99 \pm 1.22
The ability of researchers to identify the barriers of behavioral change in the authorities for utilizing their research results	2.04 \pm 1.11
Holding meetings for presentation of research results to decision makers	2.05 \pm 1.13
The level of utilizing of the nursing researches is evaluated by the authorities and decision makers	2.10 \pm 1.16
Regular assessment of the researchers needs in the field of knowledge transfer by the research deputy in the university or in faculty	2.16 \pm 1.20
The time between submitting the article and its publication is enough short to strength the research based interventions	2.20 \pm 1.09
Existence of the necessary structure and manpower for strengthening knowledge transfer in our faculty	2.20 \pm 1.12
Existence of criteria for evaluation of researchers' knowledge transfer activities in our university or faculty	2.26 \pm 1.07
Availability of the necessary financial resources to the researchers for preparing content appropriate to the research audience	2.31 \pm 1.06
Availability of the required equipment to the researchers for preparing content appropriate to the research audience	2.38 \pm 1.08
Ability of researchers to use the services of those familiar with knowledge transfer skills	2.42 \pm 1.26
Knowledge transfer and utilization of research findings are taught in the research methodology training	2.49 \pm 1.23
Having adequate time for preparing content appropriate to the target audience by the researchers	2.53 \pm 1.12
Simplicity of diagnosing actionable message by decision makers from the peer review research journals	2.57 \pm 1.19
Preparing a list of all the research audiences in each research project	2.58 \pm 1.24
Availability of a website or electronic banks for researchers to disseminate the results of their research	2.60 \pm 1.30
Researchers enough incentives for performing knowledge transfer	2.67 \pm 1.28
Ability of decision makers to easily recognize the actionable message in the final report of the research projects	2.72 \pm 1.13
Conversion of the research findings into actionable messages appropriate to the target audience by the researchers	2.73 \pm 1.23
Familiarity of the researchers with the topic of knowledge translation and how to perform it	2.84 \pm 1.24
Researchers' communication skills for knowledge transfer	3.04 \pm 1.21
Performing peer review for all research results prior to knowledge dissemination or transfer	3.17 \pm 1.41
Total Mean \pm SD for 'knowledge transfer'	2.43 \pm 0.76

Table 4. The Mean Score and Standard Deviation for Each Statement in Domain of 'Promoting the Use of Evidence'

Statement (Ascending Order)	Mean \pm SD
Send reminders to decision makers to follow the research results that we've previously dispatch them	2.03 \pm 1.18
Making strategies for strengthening evidence-based decision making by the programmers and officials	2.12 \pm 1.19
The researchers active role in technical committees that help in decision making	2.15 \pm 1.20
Conducting education programs for 'evidence-based nursing' or 'evidence-based decision making' for service providers and managers	2.27 \pm 1.27
Total Mean \pm SD for 'promoting the use of evidence'	2.13 \pm 0.96

Table 5. Organizational Activities of Transferring the Research

Variables	Very Bad, No. (%)	Inappropriate, No. (%)	Moderate, No. (%)	Good, No. (%)	Very Good, No. (%)
Existence of a short and reasonable time between 'end of research' and 'presenting its final report'	21 (7.5)	35 (12.5)	81 (29)	110 (39.4)	27 (9.7)
Effort of researchers to conduct and finish the research projects in time	15 (5.4)	46 (16.5)	88 (31.5)	97 (34.8)	29 (10.4)
Performing peer review for all research results prior to knowledge dissemination or transfer	44 (15.8)	31 (11.1)	59 (21.1)	95 (34.1)	49 (17.6)
Existence of facilities or data bank in our organization for notifying the research priorities of other organizations	36 (12.9)	57 (20.4)	56 (20.1)	91 (32.6)	35 (12.5)
Existence of a short time between 'presentation of the research proposal' and 'beginning of the research'	30 (10.8)	53 (19)	70 (25.1)	100 (35.8)	15 (5.4)
The researchers' communication skills for knowledge transfer	28 (11)	46 (16.5)	86 (30.8)	87 (32.2)	26 (9.5)
The researchers' estimation of the extent to which decision makers utilize the research results	105 (37.6)	73 (26.2)	51 (18.3)	35 (12.5)	8 (2.9)
Existence of intellectual property rights	102 (36.6)	77 (27.6)	53 (19)	28 (10)	9 (3.2)
The organization's regular communication with public and private media and target audiences for transfer of research results	112 (40.1)	84 (30.1)	53 (19)	19 (6.8)	5 (1.8)
Compared to the internal process, the external grant securing process is such that researchers are encouraged to use external funding	114 (40.9)	83 (29.7)	48 (17.2)	24 (8.6)	3 (1.1)
Existence of a comprehensive list of organizations that can use our research results	128 (45.9)	88 (31.5)	23 (8.2)	28 (10)	8 (2.9)
Providing a guideline in faculty to determine which results should be transferred to the groups with more audiences	115 (41.2)	98 (35.1)	38 (13.6)	20 (7.2)	4 (1.4)

showed that in 60% of final reports the audience is not clear, and referring to the audience in the applied aims of health research is more than those of clinical research and in clinical research is more than those of the basic sciences. They also believed that this weakness is derived from the point that health system research are usually conducted by the order of programmers or policy makers (14). Other studies have also indicated that the procedure of transferring knowledge resulted from research, but there is a need to determine the audience and the knowledge transfer strategy (14, 17). Nevertheless, in the current study items related to this case have been reported at the weak level. Studies of Sadighi et al. and Qorbani et al. have indicated that little research has been ordered by executive organizations and non-governmental institutes (14, 18). It is believed that by holding the prioritizing meetings at least every 3-5 years, health institutes can overcome these shortcomings (19). Although the participants of the current study evaluated the communication skills of researchers to transfer knowledge resulting from their research as good, they believed that mentioning the research audience in the proposal and final report is advantageous to upgrade the relationships between the producer, organizer, and the user. Also in the current study,

the status of "process of absorbing the outdoor budgets" was reported as weak. These findings go along with the reports of Nejat et al. and Qorbani et al. Although no statistical information regarding the success of nursing research plans in receiving grants is available, the probability of knowledge transfer with the cooperation of other institutes is higher (14, 17). Holding the justifying meeting to present the results of the research to beneficiaries and also presenting the results through the media will be advantageous for transferring the research findings into the practice. It seems that predicting and supplying the costs of publishing and transferring knowledge in the proposal might facilitate the publication procedure and the transfer of knowledge. Besides, concerns regarding intellectual property of research findings prior to publishing them in reliable journals are some factors which delay the procedure of transferring knowledge (20). Also, in the study of Valizadeh et al. around 70% of nurses considered untimely publishing of research reports as barriers of research utilization (10). It is recommended that universities disseminate the research findings in the language of audiences (besides publishing papers and/or presenting the results in congresses or seminars) if they find that the results are advantageous for the society

and are scientifically competent (21). To promote using research evidence and developing a research-based care culture, nurses' job promotions may also be accelerated among subjects who used the reliable results of the nursing research (22). In the current study, none of the items in different domains were considered to be in good situation. However, three items in the domain of 'question of research', six items in the domain of 'knowledge production', and 13 items in the domain of 'knowledge transfer' were reported to be medium in status. The present study showed that despite the average conditions regarding the transferring of nursing research at the organizational level, more effort is required to upgrade and use updated research evidence. It is recommended that each faculty and with participation of all faculty members, assess the research transferring procedure and implement the necessary changes to improve the research transferring procedures.

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Authors' Contribution

Leila Valizadeh (LV) is responsible for developing study concepts and design, literature review, statistical analysis, manuscript preparation, manuscript editing and review. Vahid Zamanzadeh (VZ) is responsible for study design, definition of intellectual content, data analysis, manuscript preparation and manuscript review. Somayeh Mohamadian Roshan (SMR) is responsible for developing study concepts, literature review, statistical analysis, manuscript preparation, manuscript editing and review. Sima Lak Dizaji (SLD) is responsible for developing study concepts, literature review, data acquisition, statistical analysis and manuscript preparation. Sadat Seyed Bagher Maddah (SSBM) is responsible for study design and manuscript review.

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The authors declare that they have no competing interests.

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