The Evaluation of Reproductive Health PhD Program in Iran: A CIPP Model Approach

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Abstract

This study aimed to evaluate the status of reproductive health PhD program based on the CIPP model in domains of context, input, process and product in five nursing and midwifery schools in Iran in which the program has been established. Data were collected through the five researcher-made questionnaires which distinctively constructed for five groups of participants - heads of departments, faculty members, directors of libraries, graduates and students- and a checklist for equipment evaluation. The results of the study indicate that the status of Reproductive Health PhD program was fairly appropriate. Continuous evaluation and improvement of the inappropriate and fairly appropriate indicators is essential to enhance the quality of the program.

Keywords: CIPP evaluation model; Indicators; Iran; Program evaluation; Reproductive health

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1. Introduction

Reproductive health PhD Program is the first PhD course designed for post-graduation of midwives with a master’s degree. It is a sub-discipline of medical and health sciences in which the candidates will get familiar with different dimensions of reproductive health like population, nutrition, epidemiology and advanced techniques in fertility and infertility problems. The graduates will be involved in planning, management, research and education in reproductive health issues. In Iran, reproductive health PhD Program launched in 2006 at Tehran, Shahid Beheshti, and Isfahan universities of medical sciences and then at Tarbiat Modares, Mashhad and Shahroud universities of medical sciences. For the first time, the reproductive health program was established in 1967 at Karolinska Institute, Sweden including different subfields such as reproductive health, children’s health, reproductive health and endocrinology in department of woman’s and children’s health. Subsequently this course was established at different prestigious universities such as Johns Hopkins, Harvard, Keele, Lancashire, Warwick, Monash, and Edinburgh University (Medical planning council, 2004).

Achieving higher quality of doctoral program requires abundant assessment, and identifying deficiencies. According to the American Association of Colleges of Nursing, the doctoral program aims to train critical investigators for directing several studies both in academic and community scale as well as expanding scopes of knowledge (AACN, 2001). Therefore, the educational curriculums must be prepared so that students become professionals who are able to achieve the goals (Yavuz, 2004). To design a high quality program, the internal and external quality assurance committee needs to evaluate programs periodically (Farahani & Ahmadi, 2006). Quality in higher education is a multifaceted and fairly hazy concept which complicates reaching a consensus definition. Evaluation is a process that makes it possible to judge about quality and it is of great importance. (Pazargadi & Azadi Ahmadabadi, 2008). Through evaluation of an educational program, its rate of compatibility and conformity of the program with individuals and societal needs is revealed, the capability of the methods and tools is specified, and the effective factors in program development are clarified. (Leverenz, 2009). As a matter of fact, the educational authorities are obliged to appraise the program outcomes with predetermined goals (Davis & Harden, 2003). Correct scientific evaluation not only reinforces strengths, but it also improves weak points and serves to be a basis for most educational decision making and planning and leads to improvement of academic environment (Mohebbi, Akhlaghi, Yarmohammadian & Khoshgam, 2011). Accordingly, for each educational evaluation adopting appropriate evaluation techniques sounds imperative. There exist various models of educational evaluation. One of the most well-known models in management-oriented approach is CIPP model. Daneil l. Stufflebeam and colleagues introduced the CIPP model which stands for context, input, process and product. Actually, the CIPP pattern has been designed for facilitating managers’ decision making process and it is such a holistic and comprehensive framework can assess the program from the very first stages of initiation, execution and termination thoroughly and systematically (Stufflebeam & Shinkfield, 2007). CIPP model has been used for different educational programs evaluation in higher education (Alimohammadi, Rezaeian, Bakhshi & VaziriNejad, 2013; Allahvirdiyani, K., 2011; Mohebbi et al,2011; Pakdaman, Soleimani Shayesteh, Kharazi fard & Kabosi, 2011).

The CIPP performs as a comprehensive framework for directing evaluation of programs, projects, products, institutions and systems (Hakan & Seval, 2011). Thus, in the present study we applied the CIPP as the theoretical foundation for our research. Nagata et al. (2011) concluded that a statistically significant difference among the evaluators showed that presence of various evaluators in different roles greatly matters to achieve a full understanding of the quality of nursing teaching doctorate program. Accordingly, in the current study we collected the viewpoints of department heads, faculty members, librarians, graduates and students to have a comprehensive assessment of the program. Since no independent study has been conducted on evaluating reproductive health doctorate program and according to the designed curriculum, the assessment has to take place between 3 to 5 years after completing the first educational period. So, after seven years of activity, the program requires a comprehensive evaluation. Therefore, the present study aimed to evaluate the reproductive health doctorate program of Iran based on the CIPP model in four domains of context, input, process and product.
2. Methods

This descriptive evaluative study based on the CIPP model was conducted in 2013 in nursing and midwifery schools of medical sciences universities of Iran (Tehran, Shahid Beheshti, Isfahan, Shahroud, and Mashhad) in which reproductive health PhD program has been established. The research population consisted of midwifery department heads/ the person in charge of reproductive health (n=5), reproductive health faculty members (n=18), library directors of nursing and midwifery schools (n=5), graduates (n=12) and doctorate students (n=54) admitted from 2006 to 2011. After receiving the permission from ethics committee of Isfahan University of medical sciences, the research population was selected by the census method and on the basis of the selected criteria. The inclusion criteria were: All the participants should be willing to cooperate with the evaluators and answer the questions. All the students who have passed the first semester of their doctorate study. The faculty members who have taught one credit or some part of a professional credit of reproductive health PhD program or supervisors and advisors of reproductive health doctorate program. Managers who have a six-month history of management.

The data were collected using a researcher-made questionnaire inspired from the CIPP model and checklists of assessing educational facilities and equipment. The return of the completed questionnaire by participants showed informed consent. Enjoying from the existing resources in Iran and other countries, 157 indicators in 4 domains of context, input, process and product were developed. Next, 5 researcher-made questionnaires were prepared specifically for each department head (the person in charge for reproductive health doctorate program), the faculty members (teachers of reproductive health doctorate program), heads of libraries of nursing and midwifery schools, doctorate graduates and doctorate students (AbdiShahshahani, Ehsanpour, Yamani, Kohan & Dehghani, 2014). Following, in order to evaluate the status of educational facilities a checklist was prepared and then completed by researcher after direct visiting of every university. Content and face validity of the questionnaires were assessed by 10 faculty members of medical education, reproductive health and midwifery. They were asked to offer their opinions on the research tool. After, some modifications were made over the questionnaires. In order to test the questionnaires reliability, the Cronbach’s alpha coefficient was calculated which obtained $\alpha=0.98$, $\alpha=0.96$, $\alpha=0.98$ and $\alpha=0.98$ for department heads’, faculty members’, graduates’ and students’ questionnaires, respectively. The Cronbach’s alpha for library directors’ questionnaires was not computed because of few numbers of participants (n=5) and items. The questionnaires contained two main sections. The first part consisted of demographic items. The second part of the questionnaires, however, were consisted of multiple choice questions were graded according to the Likert scale (1= very much, 2= much, 3=average, 4= little, 5=a little). Also, some open questions were provided in order to measure the participants’ ideas about strengths and weaknesses of reproductive health PhD program and their recommendations. Finally, to evaluate the status of entire indicators in each domain between groups, the appropriateness score was calculated on a 100 score basis among the groups. That is, the total obtained score was multiplied by 100 and is divided over the multiple of number of items and the maximum score each item receives (score 5). If the computed figure for each domain ranged 0-33 it was inappropriate, if ranged 34-66 was fairly appropriate and if ranged 67-100 was appropriate. The prepared checklist for evaluating educational facilities had four sections as educational and administrative spaces of the school for the reproductive health doctorate students, library and information system, computer facilities and multimedia. The questions were rated as appropriate, fairly appropriate, and inappropriate scoring 1 to 3, respectively. The score of facilities and equipment ranged 1-1.66 was inappropriate, ranging 1.66-2.32 fairly appropriate and if scored 2.32-3 was appropriate. The data were analyzed using the SPSS software. The collected data were analyzed using descriptive statistics (mean score, frequency, percentage and standard deviation) and inferential statistics (one-way ANOVA and LSD post hoc test) for comparing between groups mean scores.

3. Findings

3.1. Characteristics of participants

The average age of department heads/ person in charge of the reproductive health PhD program was 45.4±5.89 and the average years of management was 4.6± 2.96 years. The faculty members’ average age was 47± 7.37 and
average years of their work were 16.27±9.23 years. The average years of faculty members’ professional records in
the highest academic status was 5.70±3.82. The graduates’ average age was 42.72±3.79 and cumulative GPA
18.72±0.46 and their master’s / general practitioner GPA was 18.25±0.44. The students’ average age was calculated
37.87±6.61 years and GPA for passed credits equal 18.65±0.49 and their master’s/ general practitioner GPA was
equal to 18.18±0.67. The average age for library directors was calculated 42±7 with their average years of
professional activity 15±7.54.

3.2. Evaluation status of each domain

Table 1 shows frequency distribution of total status of evaluation indicators of reproductive health PhD program
in domain of context from the participants’ viewpoint. In the context domain, a majority of department heads,
Faculty members, graduates and students evaluated the indicators of reproductive health PhD program as
appropriate.

Table 1: Frequency distribution of reproductive health PhD evaluation indicators in domain of context from the participants’ viewpoint

| Subjects          | Department Heads | Faculty members | Graduates | Students |
|-------------------|------------------|-----------------|-----------|----------|
| Context status    | Frequency        | No. | %     | No. | %     | No. | %     | No. | %     |
| Inappropriate (0–33) | 0                | 0   | 0     | 0   | 0     | 2   | 3.7   |
| Fairly appropriate (34–66) | 2                | 40  | 16.7  | 2   | 16.7  | 12  | 22.2  |
| Appropriate (67–100) | 3                | 60  | 83.3  | 10  | 83.3  | 40  | 74.1  |
| Total             | 5                | 100 | 100   | 18  | 100   | 12  | 100   | 54  | 100   |

Table 2 represents mean score and standard deviation of total evaluation indicators of the reproductive health PhD program in domain of context from the participants’ perspectives. The results of one-way ANOVA indicated that the mean score of the evaluation indicators status in context domain in different groups showed no significant difference (P=0.32).

Table 2: Mean and SD of total evaluation indicators of reproductive health PhD program in 4 domains from the participants’ viewpoint

| Subjects          | Department Heads | Faculty members | Graduates | Students |
|-------------------|------------------|-----------------|-----------|----------|
| Mean score        | Mean | SD   | Mean | SD   | Mean | SD   | Mean | SD   | F     | P-value |
| Domain            |       |      |       |      |       |      |       |      |       |         |
| Context           | 71.87 | 19.16 | 78.47 | 10.27 | 77.86 | 11.34 | 71.29 | 18.50 | 1.17  | 0.32    |
| Input             | 65.64 | 13.35 | 67.90 | 9.86  | 56.66 | 16.39 | 49.27 | 16.86 | 7.45  | <0.001 |
| Process           | 70.75 | 16.15 | 62.70 | 11.60 | 53.02 | 17.21 | 46.74 | 17.64 | 6.53  | <0.001 |
| Product           | 55.83 | 17.39 | 59.83 | 18.46 | 67.88 | 16.64 | 47.66 | 20.80 | 4.35  | 0.007   |

Table 3 illustrates frequency distribution of total status of evaluation indicators of reproductive health PhD program in domain of input in terms of the participants’ viewpoint. In input domain, most of department heads, graduates and students reported the evaluation indicators of the reproductive health PhD program in input domain fairly appropriate. However, the faculty members rated it as appropriate.

Table 3: Frequency distribution of reproductive health PhD evaluation indicators in domain of input from the viewpoint of participants

| Subjects          | Department Heads | Faculty members | Graduates | Students |
|-------------------|------------------|-----------------|-----------|----------|
| Input Status      | Frequency        | No. | %     | No. | %     | No. | %     | No. | %     |
| Inappropriate (0–33) | 0                | 0   | 0     | 0   | 0     | 1   | 8.3   | 8   | 14.8  |
| Fairly appropriate (34–66) | 4                | 80  | 33.3  | 8   | 66.7  | 37  | 68.5  |
| Appropriate (67–100) | 1                | 20  | 12    | 66.7| 3     | 25  | 9     | 16.7 |
| Total             | 5                | 100 | 100   | 12  | 100   | 54  | 100   |

According to table 2 the highest mean score of the evaluation indicator in input domain belonged to the faculty members and the lowest mean score was allocated to the students groups, respectively. The one-way ANOVA results demonstrated that the mean score of the evaluation indicators in input domain was not the same among the
different groups (P<0.001). In other words, the faculty members group reported the input domain more appropriate than the other groups. One of the factors evaluated in input domain, was educational facilities and equipment. As Table 4 shows, mean score and standard deviation of the educational facilities and equipment equal 2.49± 0.24 and was evaluated appropriate, generally. The highest mean score belonged to computer facilities and the lowest score belonged to information system and library, respectively.

| Mean scores Facilities and equipment | Mean | SD |
|--------------------------------------|------|----|
| Educational and official places       | 2.35 | 0.54 |
| Library and informatics system       | 2.24 | 0.26 |
| Computer services and facilities     | 2.80 | 0.34 |
| Audio-visual facilities              | 2.56 | 0.55 |
| Total                                | 2.49 | 0.24 |

Table 5 demonstrates frequency distribution of total status of evaluation indicators of reproductive health PhD program in process domain from the participants’ viewpoint. In process domain, most of faculty members, graduates and students reported the evaluation indicators of the reproductive health PhD program fairly appropriate. By far, the department heads rated it as appropriate.

| Frequency process Status | Department heads | Faculty members | Graduates | Students |
|--------------------------|------------------|-----------------|-----------|----------|
| No. | % | No. | % | No. | % | No. | % |
| Inappropriate (0–33)     | 0 | 0 | 0 | 0 | 1 | 8.3 | 12 | 22.2 |
| Fairly appropriate (34–66) | 1 | 20 | 11 | 61.1 | 9 | 75 | 35 | 64.8 |
| Appropriate (67–100)     | 4 | 80 | 7 | 38.9 | 2 | 16.7 | 7 | 13 |
| Total                    | 5 | 100 | 18 | 100 | 12 | 100 | 54 | 100 |

The mean score of the evaluation indicator of process domain showed that the highest mean score belonged to the department heads and the lowest mean score was allocated to the students groups, respectively (table 2). The one-way ANOVA results showed that the mean score of the evaluation indicators in process domain was not the same among the different groups (P<0.001). Furthermore, the Post-Hoc LSD test results indicated no significant difference between the mean scores of faculty members and department heads, though the mean scores of students showed a statistically significant difference with the faculty members and department heads groups. Moreover, the mean scores of the graduates and department heads groups were considerably different (P=0.04). Table 6 shows frequency distribution of total status of evaluation indicators of reproductive health PhD program in product domain on the basis of the participants’ viewpoint. In product domain, most of department heads, faculty members, and students reported the evaluation indicators of the reproductive health PhD program fairly appropriate. Contrarily, half of graduates rated them appropriate and the other half reported them as fairly appropriate. The department heads rated it as appropriate.

| Frequency product Status | Department heads | Faculty members | Graduates | Students |
|--------------------------|------------------|-----------------|-----------|----------|
| No. | % | No. | % | No. | % | No. | % |
| Inappropriate (0–33)     | 0 | 0 | 2 | 11.1 | 0 | 0 | 13 | 24.1 |
| Fairly appropriate (34–66) | 3 | 60 | 10 | 55.6 | 6 | 50 | 33 | 61.1 |
| Appropriate (67–100)     | (67–100) | 2 | 40 | 6 | 33.3 | 6 | 50 | 8 | 14.8 |
The one-way ANOVA results demonstrated that the mean score of the evaluation indicators in product domain was dissimilar among the different groups (P<0.007). Additionally, the Post-Hoc LSD test results indicated no significant difference between the mean scores of faculty members, department heads and graduates, but the mean scores of students was significantly lower than two groups of faculty members (P=0.02) and graduates (P=0.002).

4. Discussion

The preset study aimed to evaluate the reproductive health PhD program in Iran based on the CIPP model. The findings showed that generally, the reproductive PhD program was fairly appropriate. According to our searches, the current study is the first scientific report about educational status of the reproductive health PhD program in Iran and other countries. Thus, no independent and previously performed evaluation study has been conducted so far.

The “need for establishing reproductive health PhD program” indicator in context domain received the highest mean score among entire participants. This in fact confirms the requirement of foundation of the reproductive health PhD program in Iran as well as significance of establishing this program by policy makers of the Ministry of Health and Medical Education. To clarify, we refer to the international conference on population and development (ICPD) in 1994, after that the concept of reproductive health has been considered as the central issue for policy makers and planners of world development. Moreover, a new horizon has been identified in reproductive health and reproductive rights. Therefore, specifying reproductive health concepts and issues has become vital and in different part of the world need assessment and designing reproductive health programs in various academic degrees has been considered (Allotey et al., 2011). The American college of nurse-midwives (ACNM), which is in charge of ensuring quality of the midwifery programs, has focused on creation of educational opportunities to train midwifery experts in the highest academic level- the PhD degree- in order to respond to the complicated and changing health needs (ACNM, 2011). One of the fundamental indicators in context domain is the presence of sufficient need assessment for establishing the course. In the current paper, items of “attention to Iranian needs as well as the beneficiaries’ facilities in designing goals of the reproductive health PhD program” received the smallest mean score among the context indicators in terms of managers and students’ viewpoints. “Adequacy of conducted field studies for foundation of the reproductive health PhD program” received the lowest mean score from the students’ points of view. Finally, “regular examination of scientific and professional needs of reproductive health experts by the department” was given the lowest mean score based on the faculty members and graduates’ ideas among other indicators of context highlight lack of sufficient need assessment according to the Iranian society and professionals’ needs. Thus, the first step in designing curriculums is determination of educational needs. As curriculum in its broad sense has to do with logical analysis in education in order to increase efficiency and its impact on resolving the learners and the society’ needs (Yamani, Shakour & Ehsanpour, 2013). The world health organization (WHO) has stressed on meeting societal needs by medical schools, which is “necessity for directing education, studies and service activities in line with achieving societal and local priorities and concerns in health issue (Woollard & Boelen, 2012). Actually, the society needs are of important factors of making transformations in curriculums. Therefore, considering the evaluation results of the study in context domain and with regard to this fact that evaluation of curriculum of the reproductive PhD program is summative, we recommend that the program evaluation takes place in formative and summative forms in order to be able to identify and modify the strong and weak points of the program. On the other hand, since the basis for a successful curriculum is evaluation of educational needs, using practical strategies and continuation of reviewing and implementation of the curriculum, we should not avoid from possible changes and take into account that small changes can lead to significant transformation in quality of the reproductive health program. Haas, Yarbrough & Klotz (2011) in their paper “Journey to a Doctoral Program” mentioned to the key factors when a new PhD program is going to be planed. They include remaining flexible and revisions based on formative evaluations and the investigators clarify that for reviewing and improvement of the new PhD program, the supervisory committee members of the PhD program hold a meeting monthly to discuss about concerns, evaluation and probable modifications. Then, the formative evaluation carries out in each other and revising the curriculum and the teaching materials are evaluated based on the student and faculty member feedbacks.
With regard to the performed need assessment in the present study which was done on the basis of providing professional services are required by the society and university, faculty members, students and graduates gave the highest score to “the researcher for carrying out evidence-based researches in the field of reproductive health”. Several different studies in Africa (Daniels and Lewin, 2011), China (Qian et al., 2001), East Asia (Martis, Ho & Crowther, 2008) and Latin America (Belizan et al., 2007) indicated unfamiliarity of health service providers about midwifery interventions based on the effective evidences and highlighted failures in conducting these interventions. The results of Daniels and Lewin (2011) study showed that mutual attempts of domestic and international investigators can establish a culture of evidence based medicine in a country. Thus, the planners are required to pay close attention to training domestic experts for internalization and expansion of evidence based medicine.

The present study findings in evaluation of curriculum in input domain showed that from the students’ perspectives “responding to the educational needs and expectation of students by the courses” had the lowest level of appropriateness. In most countries, the PhD students are involved in selecting their courses and they choose them according to their dissertation. This in addition to increasing motivation, efficiency and effectiveness of the educational program leads to higher diversity in the students’ expertise. Moreover, the graduates can play more effective role in satisfying the society’s needs (Tazakori et al., 2010). Kim et al. (2010) findings showed that weak points of nursing doctoral program were responding to educational concerns and expectations of students by courses and the problem of limited freedom of students to choose their favorite courses.

In Farahani and Ahmadi (2006) research, PhD students of nursing participated and stated that course –selection in line with their dissertation topic is significantly critical because they can save their time and enrich their studies for final dissertation. In this study majority of students and graduates emphasized on absence of clinical courses in curriculum and ignoring to empower the reproductive health experts in clinical skills. In studies on evaluation of nursing PhD program in Iran, there are reports that most of the courses are theoretical and no separate courses exist for clinical activities and health care problems (Tazakori et al, 2010; Farahani & Ahmadi, 2006). Since nursing and reproductive health program are practical sciences, so the experts must get involved in clinical skills. Without an outstanding PhD curriculum in clinical courses, the clinical science will remained undeveloped. Accordingly, due to numerous clinical problems and needs in Iran, it is mandatory that the authorities consider this issue in designing the PhD program. The findings also suggest that in evaluation of faculty members in input domain, the “conformity of the students’ dissertation referee’s expertise with reproductive health” the lowest mean score is given by students and faculty members are in the research stage. According to the graduates’ and students’ viewpoints, “enough familiarity of faculty members with the reproductive health courses” received the lowest and in terms of department heads “fitness of the supervisors’ expertise with reproductive health program” received the lowest level of appropriateness. These problems have also been tracked in evaluation of PhD program of other majors. Additionally, Kim and colleagues (2010) concluded that there is limited number of professional faculty members in this field; however, the course receivers’ idea was more positive than course providers. Regarding to the various domains of this evaluating similar to two previous studies, the graduates’ opinions were higher than the students. This is because since the graduates have completed their dissertation successfully have provided more appropriate evaluation from their faculty members compared with students. The other reason is that graduates due to limited number become faculty member soon and introduces themselves as a reproductive health expert not a reproductive health student. As a result, the sense of attachment to their major is effective on their ideas. But, because the student is busier with the curriculum can better identify disadvantages and advantages of the program (AbdiShahshahani, Ehsanpour, Yamani & Kohan, 2014). Additionally, it is probable that the first group of reproductive health PhD graduates have selected their supervisors among other faculty members of the same program at different universities. So, thanks to the fact that the reproductive health PhD program has been established in Iran for the first time, it would be quite natural that we face problems in quality and quantity of trained faculty members. Moreover, because of diversity of dissertations topics and limitations of working with supervisors at the midwifery and nursing school as a result irrelevancy of most of dissertation topics with the faculty members’ expertise. Yet, after years and greater number of graduates this problem will be solved if the newly graduated students finding opportunities for post-doctorate program. In evaluation of facilities and equipment factor in input domain, the “fitness of sport-recreational spaces and facilities with number of students” found the lowest level of appropriateness by the faculty members, students and graduates. According to the department heads’ views the indicator of “fitness of educational facilities and equipment of the
school with research and educational needs of the program” and “fitness of available books and papers at library with needs and number of faculty members and students” had the lowest level of appropriateness. Anderson (2000) considers the quality of equipment and facilities besides students’ abilities, faculty members and curriculum in the PhD program success. In higher education, physical spaces are improved only when they apply a regular and effective evaluation method. So, the CIPP model is a framework within which we can get assured that the process happens successfully (Tan, Lee & Hall, 2010).

In process domain, “adequacy of interaction between school and other responsible schools of the reproductive health PhD program for scientific progress” and “quality of interaction between educational groups of reproductive health with other educational groups of school/university”, received the lowest mean scores. This is because the reproductive health PhD program has an interdisciplinary nature and is taught in an interdisciplinary basis. For instance at the Johns Hopkins university, the reproductive, perinatal and women's health which is the most relevant major to the reproductive health PhD program in Iran, it is provided in the population, family and reproductive health department which is an interdisciplinary group at the health school (Johns Hopkins School of Public Health, 2014). At Harvard university the “Maternal and Child Health/ Children, Youth and Families (MCH/CYF)” concentration program is presented at school of health by four departments of social and behavioral sciences, nutrition, population and global health and epidemiology. The PhD students of these four majors after completing the concentration program “maternal and child health/children, youths and family” completely or at least for their required courses should conduct their dissertation in this program courses (MCH/CYF Concentration 2013).

Holley (2009) in the “challenges of interdisciplinary curriculum of neurosciences PhD program” states that the interdisciplinary idea indicates a radical transition from traditional structure of PhD in the higher education in America. It is not only a combination of the involved groups’ abilities but it is also necessary through an active and organized process, homogenization of interdisciplinary courses takes place for students’ learning. This indicates the significance of proper interactions of the groups with each other in achieving the goals. Therefore, we feel a necessity for better interaction with all school and departments relevant to the reproductive health PhD program including health education, health services management, and community medicine in the courses. On the other hand, “continues interaction of the reproductive health group with other engaged associations and universities of reproductive health around the world for improving the major” is significantly important, which is one of inappropriate indicators in this study. Schilter and Lepori (2011) in their study “what are advantages and challenges of a PhD program that involve students and faculty members of different countries?” concluded that advantages of using this cooperation are more than the disadvantages. In most answers three main advantages were mentioned as: a) knowledge for comparing different national systems and medical cares, b) exchange of experiences in a broader range of contacts for PhD students and c) improved quality of university. Since in 2006 the reproductive health PhD program was established for the first time in Iran and at the beginning of the program there was no specialized reproductive health group. So, most of inappropriate issues are explainable. The reproductive health department heads if pay close attention to inappropriate indicators and reinforce interactions among the groups and department, we will expect a significant growth in quality of education.

In product domain, according to the department heads’ viewpoint “contribution of the program dissertation to professional growth and reinforcing curriculums and clinical courses” and “the tangible impact of research activities and students’ assignments on the program” received the lowest mean score and the “benefiting from research findings by department/school for improvement and growth of reproductive health” received the lowest mean score in terms of faculty members, graduate and students’ views. Of the important criteria of the reproductive health PhD program is confirmed by supreme council of medical sciences planning “publication of at least one paper annually in prestigious domestic scientific-research and international journals by graduates” (Medical planning council, 2004) which in the present study the average number of graduates’ publications in domestic journals within recent five years was equal to 6.08±1.92 and the number of scientific papers in the international journals during the last five years was 4±2.9 which was acceptable. But “using the results of students’ dissertations for professional and curriculum growth” indicators received the lowest mean score. The WHO reported a large gap between scientific evidences and use of the research results in clinical works which demands for a serious attempt. Knowledge translation is emerging as a paradigm to learn and act towards closing the gap (WHO, 2005).

The Canadian Institutes for Health Research (2004) describes “knowledge translation” as exchange, integration and ethically-sound application of knowledge in a complex system of interactions among investigators and users, for
accelerating of gaining interests from research, i.e. improvement of public health and more effective consequences of health and strengthening of healthcare system. In order to fill the gap between knowledge and practice, at the medical sciences university of Tehran, the first translation and knowledge exchange unit was established. We recommend that the officials determine the barriers for using the PhD students’ dissertations and try to solve them. However, since only two groups of students have been graduated, it is difficult to judge about the products of this program.

5. Conclusion and recommendations

The results of the current study showed that the reproductive health PhD program is in fairly appropriate status generally. Therefore it seems that policy makers of education can pay attention to the indicators were reported inappropriate or fairly appropriate in order to develop and improve the reproductive health PhD program. On the other hand, for maintaining and improvement of appropriate indicators there should be some practical strategies. According to the results of the present study the following steps could be taken to improve some fairly appropriate and inappropriate indicators: a) in designing goals of the reproductive health PhD program, the needs of Iranian society through sufficient need assessment and attention to facilities should be considered. b) Evaluation of reproductive health PhD program happens in formative form annually. C) Revising curriculums based on the students and faculty members’ feedbacks in order to respond the students’ educational needs and expectations. d) Study opportunities and scholarships for post-doctorate courses would be provided for newly graduated teachers. e) Sufficient attention to fitness of supervisors and referees’ expertise with the students’ dissertations topics. f) The required journal and books for the reproductive health major must be available based on the number of students and faculty members. g) increased financial resources of faculty members and students. h) Due to the interdisciplinary nature of the reproductive health PhD program, a good space must be created for interaction of all department and schools related to the reproductive health PhD program in presenting courses. i) Establishment of an independent group at midwifery and nursing departments for the reproductive health major. j) The career position of the reproductive health experts must be defined. k) Clinical job records for admission to the PhD program should be considered as a necessity. l) Foundation of the knowledge translation units for solving barriers for transferring knowledge and using the research and dissertations results of the reproductive health and midwifery majors.

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