Interdisciplinary educational approaches in Healthcare Organizations

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Abstract

Background: Healthcare professionals’ perception of Interdisciplinary Education is an essential factor that affects their acceptance of this approach to education. From the literature related to patient safety, it has been identified widely that healthcare team communication and performance are critical to providing safe care to the patient. Poor organization and team dynamics among healthcare professionals appear to impact the safety and quality of patient care. The lack of Interdisciplinary Education in healthcare institutions in the Kingdom of Saudi Arabia negatively impacts the work dynamics of the healthcare team.

Results: The study results showed that the majority of healthcare workers showed a high awareness level for IPE. Therefore, female nurses who have been working in special units and have experience of more than five years are perceived more than other specialties. Also, health workers in special units showed a higher percentage than in the general wards, and females were ready more than males. Only one item helped to determine the differences in perception which is the “perceived need for cooperation”.

Conclusions: IPC should be initiated by universities than by health organizations starting at the level of leaders of medicine, nursing, and other disciplines who should be aware of the importance of IPC that would benefit patients as well as health institutions. Leaders must take IPC cooperation seriously by putting it into consideration in the vision of departments and thus starting to establish small-cooperated teams, which include various specialties.

Keywords
Interdisciplinary education, Healthcare professionals, Inter-professional collaboration

Introduction

Interdisciplinary Education has high attention overall the world over the last decade as health services and patient safety incidences significantly decreased by better collaboration between health professionals. Healthcare institutions in the Kingdom of Saudi Arabia (KSA) are facing an increase in patients’ complaints from a variety of healthcare-associated problems, and their variant cultural backgrounds. Collaboration among the different healthcare professionals is considered a crucial factor for managing these complex care situations. Interdisciplinary Education focuses on patient-centered care, which is an essential aspect of healthcare education. Interdisciplinary Education has been defined as a safe learning environment in which trainees from two or more healthcare disciplines learn with, from, and about the role of each other, participate as an associate of an interdisciplinary healthcare team, and demonstrate positive attitudes toward the patient, family, and colleagues which enhancing teamwork skills and endorse the quality of care. Interdisciplinary Education inspires mutual respect and thoughtfulness among associates on healthcare teams.

Dysfunctional team dynamics are attributed to more than 70% of medical errors. It was suggested recently that in comparison to non-medical teams, the healthcare teams are quite complex and that more sophisticated knowledge of team processes and dynamics is required.

Maintaining safety and the safety culture are health service priorities that overwhelm institutions’ budgets. Research suggests Interdisciplinary Education and healthier team dynamics can enhance clinical outcomes, performance, safety, and team culture.

Recently, it has been reinforced by numerous studies that the efficiency of Interdisciplinary Education is one of the elements of the education process. However, most of the studies were conducted in academic
settings. It pointed out a brief understanding of better communication and interdisciplinary team roles, which enhances the teamwork between members of the team. One reading showed higher satisfaction of patients with the care in the case by a multidisciplinary team who was exposed to Interdisciplinary Education. Another study presented the importance of Interdisciplinary Education in refining professional development as well as self as increasing understanding about interdisciplinary.6

In the framework of the Kingdom of Saudi Arabia (KSA), studies that were conducted in academic settings including IPE found that the prospectus would advance patient care and proliferate the satisfaction of the healthcare provider. Moreover, they found that the awareness of and willingness toward Interdisciplinary Education among undergraduate healthcare students were high7.

Problem Statement

Previous research studies based on patient safety have identified widely that some of the critical elements in providing safe patient care are performance and communication of the healthcare team5. The safety and quality of patient care appear to be influenced by team dynamics and poor coordination among healthcare professionals8. The lack of Interdisciplinary Education in healthcare institutions in the Kingdom of Saudi Arabia (KSA) negatively impacts of dynamics of the healthcare team. Emphasis on the training of future health professionals to work within teams effectively has been increased by these findings.

Healthcare professionals’ perception toward Interdisciplinary Education is an essential factor that affects their acceptance of this education approach9. This study will be carried out to evaluate the willingness and the perception of healthcare professionals in King Saud Medical City (KSMC) for Interdisciplinary Education. The outcomes of this study can provide significant support to decision-makers and educators in initiating Interdisciplinary Education programs.

Study Aims

- Identify and recognize the perception of healthcare professionals of Interdisciplinary Education at KSMC.
- Differentiate between physicians, nurses, and other allied healthcare professionals’ perception of Interdisciplinary Education in specialized units and general wards.

Research Questions

- What is the perception of Interdisciplinary Education among physicians, nurses, and other allied healthcare professionals in KSMC?
- What is the difference in perception of Interdisciplinary Education among physicians, nurses, and other allied healthcare in KSMC?
- What is the difference in physicians, nurses, and other allied healthcare professionals’ perception of Interdisciplinary Education in specialized units and general wards?

Materials and Methods

Design

A cross-sectional study design was used to the selected convenience sample, which was selected equally among the different healthcare professionals (physicians, nurses, and other allied healthcare professionals) at KSMC.

Setting

This study was conducted at King Saud Medical City (KSMC) with variant healthcare professionals (physicians, nurses, and other allied healthcare professionals) from specialized and general areas.

Sampling

The total healthcare population in KSMC is 7969 employees based on data from the Human Resources Department at KSMC. With a margin of error of 5%, confidence level 95%, and 50% response distribution, the suggested sample size for our study was 367, and 354 questionnaires were returned giving a response rate of 96.5%. A proportionate sample will be taken from the three main study groups (Physicians= 63, Nurses= 211, and Allied Health= 93).

Data Collection

Data was collected by using a self-administered survey called the Interdisciplinary Education Perception Scale, which consist of 18 items classified under 4 sub-scales (competency/autonomy, insight of definite collaboration, considerate of others’ standards, and perceived need for cooperation) and uses a Likert
Scale with reactions extending from "strongly disagree" (1) to "strongly agree" (6).

Data Analysis

Data were entered into SPSS, version 23 (IBM Corporation, Armonk, NY, USA). Data were analyzed with descriptive statistics by using frequency distribution. The inferential statistic was done by using the nonparametric tests after verifying the data by one-sample Kolmogorov-Smirnov test. The Sign test was utilized to test the healthcare workers’ perception. We compared the differences between two independent groups by using the Mann-Whitney test. On other hand, we used the Kurskal Wallis to test the differences in the perception among different specialties.

Ethical Considerations

Approval from IRB at King Saud Medical City (KSMC) will be obtained before we start the study. There will be different strategies that will help in protecting the confidentiality and rights of participants. Participants will be updated about the objective of the study and that their participation is completely voluntary. The right to refuse to the participant will be provided to each participant. Moreover, the right to refuse to answer any question will be informed to participants. The participants will also be informed about their right to end their participation at any time.

All responses will be accessed and maintained by the principal investigator only and no personal information such as job number or name will be used.

Results and Discussion

Table 1 presents the demographic characteristics of the respondents. A large majority (77.4%) of the sample were female. The age of the respondents’ spans from 30 to 39 years, present the highest percentage (59%). As reflected on the table, most (66.7%) of the respondents were nurses working in special units (61%). 65.3% of the respondents were bachelor’s holders. 57.3% of the sample have more than 5 years of experience.

Analyzing the data through the sign test we founded that the overall score & the sub-scales scores for the healthcare workers’ perception in KSMC toward Interdisciplinary Education was positive (p<0.0001) at test value (Median = 3.5). (Table 2). To test the differences in the perception toward Interdisciplinary Education between the deferent specialities (physicians, nurses, & other allied healthcare), we used Kruskal Wallis Test, which shows that no significant differences among different specialities, except in the “perceived need for cooperation” (p=0.014), based on the pairwise comparison, there was a significant difference among nursing & medicine (p=0.038), nurses showed a higher perception compared with physicians. (Table 3).

Table 4 displays the differences between different clinical settings (general wards & speciality units). We used Mann Whitney test which shows that there are differences among the perceptions of healthcare workers in special units & those in general wards toward Interdisciplinary Education (p < 0.0001). Healthcare
workers in special units showed higher perception than those working in general wards, except in the “understanding of others’ values” there was no significant difference (p = 0.11). Through analyzing the data relevant to the demographic characteristic of study participants using Mann Whitney test; the results showed no significant differences in the perception among different age groups, as well as, between male and female health care providers except in the items classified under “perception of actual cooperation” presented that there is a substantial modification between males & females (P=0.047). (Table 5)

The current study intended to categorize and recognize the insight and readiness of healthcare professionals at KSMC towards an IPE; focusing on the differences among specialties and their clinical settings. Results demonstrated that the majority of the respondents showed a high perception level toward IPE. Therefore, female nurses who have been working in special units and have experience more than 5 years perceived more than other specialties. Also, health workers in special units showed a higher percentage than the general wards, and females were ready more than males. Only one item helped to determine the differences in perception among specialties, which is

Table 3
Differences in the perception between the deferent specialties

<table>
<thead>
<tr>
<th>KRUSKAL WALLIS TEST</th>
<th>Chi-Square</th>
<th>df</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competency/Autonomy</td>
<td>.501</td>
<td>2</td>
<td>.779</td>
</tr>
<tr>
<td>Perception of Actual Cooperation</td>
<td>1.904</td>
<td>2</td>
<td>.386</td>
</tr>
<tr>
<td>Understanding of Others’ Values</td>
<td>2.015</td>
<td>2</td>
<td>.365</td>
</tr>
<tr>
<td>Perceived Need for Cooperation</td>
<td>8.532</td>
<td>2</td>
<td>.014</td>
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Pairwise Comparison

<table>
<thead>
<tr>
<th>Sample 1- Sample 2</th>
<th>Test Statistic</th>
<th>Std. Error</th>
<th>Std. Test Statistic</th>
<th>Sig.</th>
<th>Adj.Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine-allied health</td>
<td>-4.390</td>
<td>18.709</td>
<td>-2.35</td>
<td>.814</td>
<td>1.000</td>
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<tr>
<td>Medicine-nursing</td>
<td><strong>-35.055</strong></td>
<td>14.049</td>
<td>-2.495</td>
<td>.013</td>
<td><strong>.038</strong></td>
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<tr>
<td>Allied health-nursing</td>
<td>30.665</td>
<td>15.457</td>
<td>1.984</td>
<td>.047</td>
<td>.142</td>
</tr>
</tbody>
</table>

Table 4
Differences in perception between the deferent clinical settings

<table>
<thead>
<tr>
<th>Mann Whitney Test</th>
<th>Clinical Setting</th>
<th>Mean Rank</th>
<th>Mann Whitney U</th>
<th>Z</th>
<th>Asymp. Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competency/ Autonomy</td>
<td>General ward</td>
<td>153.67</td>
<td>191.80</td>
<td>-3.427</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>Special unit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perception of Actual Cooperation</td>
<td>General ward</td>
<td>154.41</td>
<td>191.33</td>
<td>-3.328</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>Special unit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding of Others’ Values</td>
<td>General ward</td>
<td>166.12</td>
<td>183.90</td>
<td>-1.600</td>
<td>.110</td>
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<tr>
<td></td>
<td>Special unit</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Need for Cooperation</td>
<td>General ward</td>
<td>150.24</td>
<td>193.97</td>
<td>-3.980</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Special unit</td>
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Table 5
Differences in perception between males and females

<table>
<thead>
<tr>
<th></th>
<th>Competency Autonomy</th>
<th>Perceived Need for Cooperation</th>
<th>Perception of Actual Cooperation</th>
<th>Understanding of Others’ Values</th>
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</thead>
<tbody>
<tr>
<td>Mann Whitney U</td>
<td>10052.000</td>
<td>9751.500</td>
<td>9369.500</td>
<td>10691.500</td>
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<tr>
<td>Wilcoxon W</td>
<td>13292.000</td>
<td>12991.500</td>
<td>12609.500</td>
<td>13931.500</td>
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<tr>
<td>Z</td>
<td>-1.130</td>
<td>-1.522</td>
<td>-1.985</td>
<td>-.334</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>.259</td>
<td>.128</td>
<td>.047</td>
<td>.738</td>
</tr>
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</table>
the “perceived need for cooperation”. In KSMC, the behavior of physicians was not surprising, as they always commit to work and receive education from each other and with physician assistance rather than nurses or any other health care professional as allied health care. Therefore, Nurses usually play an important role in collaborating with other specialties which makes a high level of perception but not strange.

When comparing the results of the different clinical settings, it must be kept in mind that the special unit had their professional collaboration culture mostly better than other units. One of the most important findings is that the participants showed the need for actual interprofessional collaboration (IPC) in the absence of structured IPE programs. Literature indicates that most health care professionals acknowledge that IPC is important and required but they may differ in their satisfaction and how to implement it in practice (11).

Conclusions

Currently, establishing IPE programs in KSMC is still rare. Initially, it may be possible to create an IPE by deliberately encourage an environment of IPC among health professions. IPC should be initiated from universities than from health organizations starting at the level of leaders of medicine, nursing, and other disciplines who should be aware of the importance of IPC that would benefit patients as well as health institutions. Leaders must take IPC cooperation seriously by putting it into consideration in the vision of departments and thus starting to establish small cooperated teams which include various specialties (11). Expanding the scope of this type of cooperation will lead to the necessity to look into a combination of educational concepts to work with a disciplined approach. Therefore, the education of medical, nursing and other allied health must define the educational needs of these teams and thus create appropriate IPE programs base on those needs. Three gaps to be filled: There may be a difference between the acceptance of the young generation and the old ones to work according to a new concept. So, generations must be considered into account in studying the attitude of health professionals toward IPE. Studying the awareness and readiness of the health institutions' leaders to motivate the IPC is crucial. A focus on understanding the advantages of the nursing profession's cooperation with physicians on the quality of decision-making is also needed. Lastly, the notified limitation was with physiotherapists, pharmacists when compared with other allied healthcare professionals such as dietitians, dentists, occupational therapists, respiratory therapists, etc.

Author's Contributions

The corresponding author of this study is Mohammed Al Tous. Other authors of the study are Ahmad Alkhaiibary, Hussein Alabssi, Ahmad Haimour, Amal Alqarni, and Maisa Alqaryouti. All authors have made substantial contributions to the final approval of the version to be submitted, drafting the article or revising it crucially for important intellectual content, and the design and conception of the study or interpretation and analysis of data, and acquisition of data.

Acknowledgments

Authors are thankful to the Nursing Education Administration- King Saud Medical City Riyadh- Kingdom of Saudi Arabia, for the continuous support towards this research study.

Statement on Conflicts of Interest

All objectives of the study were successfully met without any conflict of interest.

Funding

No Funding was acquired for this research.

Declarations

Competing interests

The authors declare no competing interests between them.

Declaration of interest

The authors have no conflict of interest.

Ethical approval

Ethical approval was obtained from IRB at King Saud Medical City (KSMC) before initiating the research study.

Data Availability

The support data and findings of this study are available in this research paper for further information contact the corresponding author (Mohammed Al Tous).
Summary Table

<table>
<thead>
<tr>
<th>What was already known on the topic?</th>
<th>What this study added to our knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The previous research studies and literature has described that the communication and</td>
<td>• The research has taken the context of KSA into account and the research has added to the knowledge</td>
</tr>
<tr>
<td>performance of the healthcare team are the critical elements of safe patient care and</td>
<td>that how the acceptance of interdisciplinary education among youngsters is different from the older</td>
</tr>
<tr>
<td>interdisciplinary education. • In the previous research studies, the context of the non-western</td>
<td>generation</td>
</tr>
<tr>
<td>country was not taken into account to a greater extent and minimal research has been found in</td>
<td>• Awareness about IPC, the readiness of health institutes to adopt it and how interdisciplinary</td>
</tr>
<tr>
<td>this regard</td>
<td>education can be used in the effective decision-making</td>
</tr>
</tbody>
</table>

References