

Conflict Resolution Strategies Training Program and its Effect on Assertiveness among Nursing Students

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Abstract

Background nursing students are increasingly challenged to manage conflict, improve communication, and influence assertive behavior. **Aim:** This study aims to assess the effect of the training program about conflict resolution strategies on nursing students' assertiveness. **Design:** A quasi-experimental design was used. **Settings:** the study was conducted at the Technical Institute of Nursing, Zagazig University. **Subjects:** 151 students in the two grades academic year. **Data collection:** Three tools were used: the conflict knowledge questionnaire, Rahim conflict strategies inventory II, and students' assertiveness questionnaire. **Results:** revealed that the highest percentage of the nursing students had unsatisfactory knowledge and perception of conflict, and assertiveness level before program. After program implementation there are improving in the satisfactory level of constructive conflict resolution strategies and assertiveness. **Conclusion:** the implementation of an educational intervention is effective in improving these nursing students' knowledge and perception of conflict and their assertiveness, with positive influences on constructive conflict management strategies, and hindering impact on the negative ones. **Recommendation:** proposed to develop training program in the curricula of the Technical Nursing Institutes in order to improve students' psychomotor skills and summer courses and co-curriculum activities need to be developed to help nursing students improve their conflict resolution strategies and assertiveness.

Key words: assertiveness, conflict, conflict resolution strategies.

Introduction

University students face challenges and pressures that are more different from those faced in high school. They have increased responsibilities for all parties of their lives, including managing conflict and being assertive when necessary. Nursing students are increasingly challenged to manage conflict and negotiate conflicting interests promote a healthy organization (*Iacono, 2014*).

Conflict can be defined as an expressed struggle between at least two interdependent

parties who perceive that incompatible goals, scarce resources (*Kantek, 2011*). Conflict can be categorized according to situation into intrapersonal, interpersonal, intragroup, and intergroup types. Moreover, conflict can be functional or dysfunctional; this difference depending on how each person perceives it and resolves it. The better educators and students able they are to manage conflict constructively (*Moran, 2015*).

Prominent conflict handling styles include avoiding, accommodating, competing, compromising and collaborating. The five styles represent different combination of

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assertiveness and cooperativeness, and have two dimensions: concern for self and concern for others (*Thomas and Killman, 2002*)

In avoiding style, the user attempts to passively ignore the conflict rather than resolve it. The individual shows a low level of concern for the self and for the other side. Accommodating or smoothing conflict style is unassertive but cooperative through complimenting one's opponent and focusing on minor areas of agreement. It may be appropriate in dealing with minor problems (*Huber, 2010*). Conversely, competing or forcing conflict style is assertive and uncooperative. The individuals do all effort to win, regardless of the cost. It may be needed in situations involving unpopular or urgent decisions (*Woodtli, 2012*). The compromising or negotiating style is moderately assertive and cooperative based on give-and-take approach. It can serve as a backup to resolve conflict when collaboration is ineffective and when opponents are of equal power (*Liberatore et al., 2015*). The collaborating or problem solving style resolves conflict by working together with the other person to find an acceptable solution. It is considered the most effective means for resolving conflicts (*Rahim, 2001*).

Significance of the study

The researcher notes that students spend more time in conflict, arguing, fighting and have little time or energy for academic pursuits which may affect their academic achievement. Many recent researches supported the researcher point of view such as the an American study which mentioned that seventy-six percent of American school administrators who responded to a survey on school violence reported that if negative social behaviors of students were reduced and replaced by positive ones, academic achievement would be enhanced (*Abdul-Ghaffar, 2010*).

Additionally an Egyptian study mentioned that conflicts faced by students in

teaching organizations have a direct effect on performance as well as the outcome of learning experience and the responsibility of nursing institutes is to increase the ability and competency of their students in conflict management to establish working relationships with diverse individual and groups of people as future professionals (*Fakhry and Abou El-Hassan, 2011*).

Aim of the Study

This study aimed at:

Assessing the effect of the training program about conflict resolution strategies on nursing students' assertiveness through:

1. Assessing knowledge of the nursing students related to conflict and conflict resolution strategies before and after implementing the training program.
2. Assessing conflict resolution strategies used by nursing students before and after implementing the training program.
3. Assessing nursing students' assertiveness level before and after implementing the training program.

Research Hypothesis

Improving nurse students' conflict resolution strategies will improve their assertiveness after implementation of training program.

Subjects and Methods

The study is presented under technical, operational, administrative, and statistical designs.

I. Technical Design

Research design

The study used a quasi-experimental research design with three phases of data collection. Data were collected pre-test, post-test, and follow-up test.

Setting:

The study was conducted at the Technical Institute of Nursing, Zagazig University.

Subjects:

Sample criteria: In the academic year 2015/2016, the institute had 151 nursing students, 116 females and 35 males. These are distributed in two academic years: 72 in the academic year I and 79 in the academic year II.

Sample Size:

All students were included in sample (151) student. Their number was large enough to detect a difference between the percentage of use of any positive conflict resolution strategy before ($p_1=40\%$) and after ($p_2= 60\%$) the intervention with a 95% level of confidence (α error= 5%), and a study power of 80% (β error = 20%). The equation for the difference between proportions (EpiInfo 6.04) was used, with an adjustment for a dropout rate of approximately 20%. This sample size was also sufficient to demonstrate an increase in the percentage of subjects with high assertiveness from 2% before the intervention to 15% after the intervention.

Sample technique:

Since all students were included in the sample, no sampling technique was applied.

Tools of Data Collection

Three tools were used to collect data for this study.

Tool I: Conflict Knowledge Questionnaire; it was used to assess nurse students' knowledge of conflict and its strategies, and it was composed of the following three parts.

Part I: Socio-demographic Characteristics: This part was developed by the researcher and used to collect Socio-demographic data of students such as academic year and age. **Part II:** A self-administered questionnaire sheet: This questionnaire was developed by the researcher based on relevant review of literature (*Huber, 2010 and Marquis and Huston, 2012*). It consisted of 30 items subdivided into seven main categories using tools such as MCQs and true and false. These addressed conflict concept, causes, types, importance, process, conflict management, and conflict management strategies.

❖ Scoring system

Each question of the MCQs (17) questions and true and false (13) questions were assigned one point if correct and zero if incorrect. These scores were summed-up and converted into a percent score. Knowledge was considered satisfactory if the percent score was 60% or more and unsatisfactory if less than 60%.

Part III: Perceived Conflict Scale: This scale was developed by **Huber (2010)** to measure conflict and to determine its types as perceived by nursing students. It includes 16 items equally subdivided into four subscales. intrapersonal conflict, interpersonal conflict, intergroup conflict intragroup conflict.

❖ **Scoring system**

The items are checked on a five-point Likert scale. The responses were on a 5-point Likert scale: always, frequently, sometimes, rarely, and never occur. These scores were summed-up and converted into a percent score. The respondent was considered as having related high conflict types if the percent score was 60% or more and low if less than 60%.

Tool II: Conflict Strategies Inventory: This was adopted from Rahim Organizational Conflict Inventory II (ROCI II), *Rahim (2001)* developed for determining what strategies students use to handle conflict. The tool has 30 items equally divide among the five conflict management styles: Accommodating, collaboration, competing, compromising and avoiding.

❖ **Scoring system**

The responses are on a 5-point Likert scale from "Strongly disagree" to "Strongly agree". Use of conflict management strategies was considered high if the percent score was 60% or more and low if less than 60%.

Tool III: Students' Assertiveness Questionnaire: This was developed by *Deltsidou (2009)* and modified by the researcher to assess nursing students' assertiveness level. It consists of 24 questions they are categorized into three subscales: Assertiveness, aggression and passivity categories.

❖ **Scoring system**

The responses are measured on a four-point Likert scale "always, sometimes, rarely and never". These were scored from 4 to 1 respectively. These scores were summed-up and converted into a percent score. The students' assertiveness was considered high if the percent score was 60% or more, and low if less than 60%.

II. Operational Design

The operational design involves an elaboration of the study preparatory phase, pilot study, and fieldwork.

Preparatory phase

The tool was translated by the researcher and written in simple Arabic language based on scientific literature review to assess data.

Tools validation

The tool was rigorously revised by a jury group of experts in nursing management for content validity using a Delphi technique. The process involved addition, deletion, and rephrasing of items as requested by experts.

Pilot study

A pilot study was done on 10% of the sample students; accordingly the tools and data collection plan were finalized. The pilot tested for reliability assessment, and proved to have Cronbach alpha coefficient 0.672, indicating a very high degree of reliability.

Field work

The study was carried out through assessment, planning, implementation, and evaluation phases. The field work took eight months from February 2015 to September 2015.

Assessment phase

The data collected during pretest to identify the students' learning needs. This phase took about one month.

Planning phase

During this phase, the students' identified needs were translated into a custom-tailored educational program in view of the relevant literature. The program was

aimed at providing trainees with applied knowledge and practical experience. The program content covered various topics related to conflict, and included a practical part in form of giving activities, exercises, and situations for students about conflict resolution strategies.

The methods of teaching included lectures, group discussions, role play and brainstorming sessions. Instructional media included power point, colored posters and the handout about conflict and its resolution strategies prepared by the researcher based on reviewing literature and *Abd El Aziz, (2009)* and distributed to all students in the first day of the training. This phase took about two months.

Implementation phase (Training program):

It was done in small group sessions along 11 days. These sessions lasted for 33 hours; 11 hours of knowledge and 22 hours of practice between lectures. The duration of each session was 3 hours. This phase took about one month and half.

Evaluation phase

This was done immediately after the completion of the program, and repeated after a three month follow- up to assess the retention of the information acquired during the program. This phase took about three months.

III. Administrative Design

Official permissions were obtained through pertinent authorities. It clarified the

expected benefits, and ensured confidentiality of the information obtained.

Ethical consideration

Official permission was obtained to perform the study after reviewing its ethical aspects by the Ethics Committees in both faculties. The researcher met with the students and provided them with verbal and written explanation of the aim and nature of the study, and invited them to participate. Those who gave their consent to participate were recruited in the sample. They were informed about their rights to refuse participating, or withdraw at any time. They were also assured that the information would be utilized confidentially and for research purposes only.

IV. Statistical Design

Data entry and statistical analysis were achieved using SPSS 20.0 statistical software package. Quantitative continuous data were compared using Student t-test in case of comparisons between two groups. Qualitative categorical variables were compared using chi-square test. Whenever the expected values in one or more of the cells in a 2x2 tables was less than 5, Fisher exact test was used instead. In larger than 2x2 cross-tables, no test could be applied whenever the expected value in 10% or more of the cells was less than 5. Pearson correlation analysis was used for assessment of the interrelationships among quantitative variables, and Spearman rank correlation for ranked ones. Statistical significance was considered at p-value <0.05.

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Result

Table (1): Socio-demographic characteristics of nurse students in the study sample (n=151).

| | Frequency | Percent |
|--|-----------|---------|
| Age: | | |
| <21 | 124 | 82.1 |
| 21+ | 27 | 17.9 |
| Range | 18.0-22.0 | |
| Mean±SD | 19.7±0.8 | |
| Median | 20.0 | |
| Gender: | | |
| Male | 35 | 23.2 |
| Female | 116 | 76.8 |
| Marital status: | | |
| Single | 148 | 98.0 |
| Married | 3 | 2.0 |
| Secondary education: | | |
| Technical | 17 | 11.3 |
| General | 134 | 88.7 |
| Previous academic failure: | | |
| Number of previous failures (n=5): | | |
| 1 | 4 | 80.0 |
| 2 | 1 | 20.0 |
| Had previous training courses in: | | |
| Conflict | 4 | 2.6 |
| Assertiveness | 1 | 0.7 |

Table (1): The nurse students' age ranged between 18 and 22 years, with median 20.0 years, with a majority of females (76.8%), with general secondary education (88.7%) as shown in Table 1. Only 3 (2.0%) of them were married, and 5 (3.3%) had previous academic failure. Almost all of them reported having not attended training courses in conflict or assertiveness.

Table (2): Knowledge about conflict among nurse students throughout study phases (n=151).

| Satisfactory Knowledge (60%+) of Conflict: | Time | | | | | | X ² (p-value) Pre-post | X ² (p-value) Pre-FU |
|--|-------------|------|--------------|------|------------|------|-----------------------------------|---------------------------------|
| | Pre (n=151) | | Post (n=151) | | FU (n=151) | | | |
| | No. | % | No. | % | No. | % | | |
| Concept | 21 | 13.9 | 150 | 99.3 | 150 | 99.3 | 224.35 (<0.001*) | 224.35 (<0.001*) |
| Causes | 34 | 22.5 | 148 | 98.0 | 146 | 96.7 | 179.71 (<0.001*) | 172.51 (<0.001*) |
| Types | 5 | 3.3 | 149 | 98.7 | 140 | 92.7 | 274.76 (<0.001*) | 241.77 (<0.001*) |
| Importance | 66 | 43.7 | 148 | 98.0 | 148 | 98.0 | 107.83 (<0.001*) | 107.83 (<0.001*) |
| Process | 117 | 77.5 | 148 | 98.0 | 148 | 98.0 | 29.60 (<0.001*) | 29.60 (<0.001*) |
| Management | 17 | 11.3 | 149 | 98.7 | 149 | 98.7 | 233.08 (<0.001*) | 233.08 (<0.001*) |
| Strategies | 49 | 32.5 | 150 | 99.3 | 150 | 99.3 | 150.30 (<0.001*) | 150.30 (<0.001*) |

(*) Statistically significant at p<0.05

Table (2): indicates that the nurse students' knowledge about conflict was low at the pre-intervention phase. The post-intervention phase was associated with statistically significant improvements in all areas of knowledge ($p<0.001$). These improvements persisted throughout the follow-up phase ($p<0.001$).

Table (3): Perceived conflict types among nurse students throughout study phases (n=151).

| High (60%+) conflict types: | Time | | | | | | X ² (p-value) Pre-post | X ² (p-value) Pre-FU |
|-----------------------------|-------------|------|--------------|------|------------|------|-----------------------------------|---------------------------------|
| | Pre (n=151) | | Post (n=151) | | FU (n=151) | | | |
| | No. | % | No. | % | No. | % | | |
| Intrapersonal | 108 | 71.5 | 89 | 58.9 | 93 | 61.6 | 5.27 (0.02*) | 3.35 (0.07) |
| Interpersonal | 103 | 68.2 | 45 | 96.0 | 140 | 92.7 | 39.78 (<0.001*) | 28.84 (<0.001*) |
| Intergroup | 94 | 62.3 | 110 | 72.8 | 105 | 69.5 | 3.87 (0.049*) | 1.78 (0.18) |
| Intragroup | 78 | 51.7 | 82 | 54.3 | 60 | 39.7 | 0.21 (0.64) | 4.32 (0.04*) |

(*) Statistically significant at $p<0.05$

Table (3): indicates generally high percentages of perception of various types of conflict among the nurse students at the pre-intervention phase. The highest was the intrapersonal (71.5%) while the lowest was the intragroup type (51.7%). At the post-intervention phase, there were statistically significant increases in the interpersonal ($p<0.001$), and intergroup ($p=0.049$) types, while the intrapersonal type decreased ($p=0.02$). The increase in the interpersonal type persisted at the follow-up phase ($p<0.001$).

Table (4): Conflict management strategies among nurse students throughout study phases (n=151).

| High use (60%+) of conflict management strategies: | Time | | | | | | X ² (p-value) Pre-post | X ² (p-value) Pre-FU |
|--|-------------|------|--------------|------|------------|------|-----------------------------------|---------------------------------|
| | Pre (n=151) | | Post (n=151) | | FU (n=151) | | | |
| | No. | % | No. | % | No. | % | | |
| Accommodating | 92 | 60.9 | 120 | 79.5 | 109 | 72.2 | 12.41 (<0.001*) | 4.30 (0.04*) |
| Collaborating | 96 | 63.6 | 150 | 99.3 | 147 | 97.4 | 63.93 (<0.001*) | 54.79 (<0.001*) |
| Compromising | 103 | 68.2 | 150 | 99.3 | 146 | 96.7 | 53.81 (<0.001*) | 42.31 (<0.001*) |
| Competing | 88 | 58.3 | 64 | 42.4 | 58 | 38.4 | 7.63 (0.006*) | 11.93 (<0.001*) |
| Avoiding | 81 | 53.6 | 79 | 52.3 | 77 | 51.0 | 0.05 (0.82) | 0.21 (0.64) |

(*) Statistically significant at $p<0.05$

Table (4): demonstrates that at the pre-intervention phase, the highest used by nurse students was the compromising (68.2%) whereas the lowest was the avoiding strategy (53.6%). At the post-intervention phase, there were statistically significant increases in all strategies except the competing strategy, which decreased ($p=0.006$),

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and the avoiding strategy, which did not change ($p=0.82$). These changes continued through the follow-up phase.

Table (5): Assertiveness among nurse students throughout study phases (n=151).

| High (60%+) Assertiveness | Time | | | | | | X ² (p-value) Pre-post | X ² (p-value) Pre-FU |
|---------------------------|-------------|------|--------------|------|------------|------|-----------------------------------|---------------------------------|
| | Pre (n=151) | | Post (n=151) | | FU (n=151) | | | |
| | No. | % | No. | % | No. | % | | |
| Assertiveness | 65 | 43.0 | 144 | 95.4 | 139 | 92.1 | 96.97 (<0.001*) | 82.72 (<0.001*) |
| Aggression | 40 | 26.5 | 37 | 24.5 | 39 | 25.8 | 0.16 (0.69) | 0.02 (0.90) |
| Passivity | 35 | 23.2 | 7 | 4.6 | 24 | 15.9 | 21.68 (<0.001*) | 2.55 (0.11) |

(*) Statistically significant at $p<0.05$

Table (5): points to general low levels of the three domains of assertiveness among the nurse students at the pre-intervention phase. At the post-intervention phase, there was a statistically significant increase in the domain of assertiveness ($p<0.001$), while the domain of passivity decreased ($p<0.001$). Only the increase in the domain of assertiveness persisted through the follow-up phase ($p<0.001$).

Table (6): Correlation matrix of nurse students' scores of knowledge, total conflict, assertiveness, and conflict management strategies (n=151).

| | Spearman's rank correlation coefficient | | | | | | | |
|--------------------------|---|--------------------------|---------------|----------------|----------------|---------------|------------|----------|
| | Know-ledge | Total Perceived conflict | Assertiveness | Accommo-dating | Collabo-rating | Compro-mising | Compe-ting | Avoiding |
| Knowledge | | | | | | | | |
| Total perceived conflict | .118* | | | | | | | |
| Assertiveness | .494** | 0.07 | | | | | | |
| Accommodating | .192** | .200** | .241** | | | | | |
| Collaborating | .441** | .145** | .372** | .305** | | | | |
| Compromising | .552** | .215** | .546** | .257** | .537** | | | |
| Competing | -.183** | 0.04 | -.308** | -0.03 | -0.02 | -.239** | | |
| Avoiding | -0.02 | 0.01 | -.199** | 0.05 | .145** | -.121* | .412** | |

(*) Statistically significant at $p<0.05$

(**) Statistically significant at $p<0.01$

Table (6): As displayed in Table 6, nurse students' knowledge scores had statistically significant weak to moderate positive correlations with their total conflict, assertiveness, and a negative correlation with the competing strategy.

Table (7): Best fitting multiple linear regression model for the knowledge score (n=151).

| | Unstandardized Coefficients | | Standardized Coefficients | t-test | p-value | 95% Confidence Interval for B | |
|---------------------------|-----------------------------|------------|---------------------------|--------|---------|-------------------------------|--------|
| | B | Std. Error | | | | Lower | Upper |
| Constant | 34.378 | 2.096 | | 16.400 | <0.001 | 30.259 | 38.498 |
| Intervention | 61.271 | 1.111 | .931 | 55.137 | <0.001 | 59.087 | 63.454 |
| School grade | 3.670 | 1.123 | .059 | 3.268 | .001 | 1.463 | 5.876 |
| Training in Assertiveness | -14.82 | 6.500 | -.039 | 2.280 | .023 | -27.59 | -2.04 |
| Crowding index | -3.281 | 1.259 | -.047 | 2.606 | .009 | -5.755 | -.807 |

r-square=0.87

Model ANOVA: F=764.20, p<0.001

Table (7): demonstrates that the statistically significant independent positive predictors of nurse students' knowledge score were the study intervention and the school grade. The model explains 87% of the variation in the knowledge score.

Discussion

According to the present study findings, the nursing students had very deficient knowledge about conflict before the intervention. This was particularly evident regarding the types of conflict and the approaches to its management. This might be attributed to the lack of focusing on these issues in the curricula of nursing diploma programs, which may give more emphasis to technical skills. A similar limited level of knowledge of conflict behavior was reported in a study on re-licensure nursing students in a study in the United States (*Waite and McKinney, 2014*).

Meanwhile, the study findings revealed significant improvements in nursing students' knowledge after implementation of the intervention program. Moreover, this improvement persisted during the follow-up phase of the study, which indicates good retention of the information gained. This success could be due to that the intervention program was planned based on true met needs identified during the assessment phase of the study.

As regards the factors possibly influencing the knowledge of the nursing students in the present study, the higher level of mother and having internet service at home were significantly associated with higher percentages of satisfactory knowledge.

Concerning nursing students' perception of the various types of conflict in their settings before the current study intervention, the results revealed generally high rates of perception. The interpersonal types of conflict were the most perceived by students, whereas the intragroup types were the least perceived. The findings are plausible since the interpersonal conflict is the easiest to notice, and is most common at this age of late adolescence. On the other hand, the low perception of intragroup type of conflict could be attributed to the lack of work in groups during their study at the technical institute.

The implementation of the current study intervention was associated with significant increases in students' perception of the interpersonal type of conflict, and this increase continued through the follow-up phase. Meanwhile the nursing students' perception of the intrapersonal type of conflict in current study demonstrated a significant decrease at the post-intervention

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phase. It remained at this lower level at the follow-up phase of the intervention. This could point to more understanding of these types of conflict among the students based on acquired knowledge.

The nursing students' perception of total conflict showed a significant increase after implementation of the intervention. However, it had a slight decline at the follow-up phase. This change in students' perception was related to the knowledge they gained during the intervention, and not as a direct effect of the intervention program itself. This was evident from the results of the multivariate analysis, which identified the knowledge score as a positive predictor of the perception score while the study intervention was a negative predictor. Thus, only the students who acquired high levels of knowledge had improved perception, and not the mere attendance of the program. The finding is in line with *Gerber, (2011)* whose study in New England showed an improvement in total score of conflict and its resolution among students after a training program.

Regarding the conflict management strategies used by the nursing students, the present study revealed that before implementation of the intervention, the most used strategy was the compromising as reported by slightly more than two-thirds of them. At the other extreme, the avoiding strategy was the least used. The findings indicate that the students prefer a soothing strategy, and are less inclined to use either the negative passive strategies. The finding is in line with the results of a study in the United States, which revealed that the nursing students were less likely to use the competing and the collaborating conflict management strategies (*Pines et al., 2012*).

In agreement with this, *Cheng (2015)* found that the most frequently used conflict management style by nursing students in academic environment was the compromising one.

The post-intervention and follow-up phases of present study showed significant increases in all positive and constructive conflict management strategies, namely the compromising, collaborating, and accommodating types. Conversely, the use of the competing strategy decreased, while the avoiding strategy remained unchanged. The findings demonstrate the effectiveness of the intervention program in training nursing students in using appropriate conflict management strategies that lead to positive outcomes and provide true solutions for such conflicts. In congruence with this, a study carried out in Pakistan demonstrated significant improvements in nursing students' conflict management scores after implementation of a training Program (*Abdul ghaffar, 2010*).

The present study has also addressed the issue of nursing students' assertiveness. The results demonstrated that they had low levels of assertiveness before implementation of the intervention. This finding is certainly related to the Personal characteristics of these students, as well as the educational system, which tends to be oppressive at school and higher levels. This is put in evidence from the results of the multivariate analysis, which identified mother's work as a significant positive predictor of the assertiveness score. Moreover, a higher school grade was identified as a negative predictor of this score, indicating a negative impact of the institute on students' assertiveness. Moreover, higher education laces little attention on the educational goals of assertiveness development and the majority of educators continue to focus on to the acquisition of knowledge in a traditional discipline. In congruence with this finding, a study in Turkey reported low level of assertiveness and high submissive behavior among nursing students (*Goffiman, 2010*).

After implementation of the current study intervention, the results indicated significant increases in the domain of assertiveness and decreases in the passivity

domain. The improvements persisted throughout the follow-up phase although with a slight decline. The findings indicate the success of the program, and leads to acceptance of the main research hypothesis. Nonetheless, the intervention affected its positive influence on the score of assertiveness indirectly through improving students' knowledge, which was identified as the main positive predictor of the assertiveness score.

The foregoing current study findings are in agreement with *Kim (2016)* whose study in Korea demonstrated significant improvements in nursing students' assertiveness following a training program, and this was associated with lower levels of stress among them.

According to the present study, the knowledge and assertiveness scores were positively correlated. Additionally, they had significant positive correlations with the scores of the accommodating, collaborating, and compromising strategies. Thus, improving students' knowledge and assertiveness would lead to improvements in their abilities and skills of conflict management.

Moreover, in the multivariate analysis of the current study, the implemented intervention program was a significant positive independent predictor of the accommodating conflict strategy score. Conversely, it was a negative predictor of the competing strategy score. Thus, the intervention had a direct enhancing effect on the soothing strategy, and a direct inhibitory effect on the competing type that is associated with more confrontations and arguments.

The present study has also revealed that the nursing students who had general secondary education were more likely to use the collaborating and compromising strategies compared with their peers from technical schools. This may reflect the differences between the two educational

systems, where the general system seems to be more controlled. On the other hand, the technical schools generally admit students with lower educational attainments who may more tendencies to aggressive behaviors. The effect of school environment has been shown to affect students' social development in a systematic review (*Bonell et al., 2013*).

Another factor that could have an impact on nursing students' choice of the conflict management strategies is the work during study. The present study revealed that the use of the accommodating and compromising conflict management strategies was higher among those not working during study. This might be explained by the lack of work interactions among them, which makes them more prone to deal peacefully with conflicts. In agreement with this, *Walalce (2016)* reported that work-study exposed nursing students to clinical situations, helped them integrate clinical knowledge and critical thinking skills, and expanded their communication skills.

Conclusion

Based on the results of the present study, it can be concluded that, the implementation of an educational intervention is effective in improving these nursing students' knowledge and perception of conflict types and their assertiveness, with positive influences on constructive conflict management strategies, and hindering impact on the negative ones.

Recommendations

The current study recommends the following:

- Continuous training programs about conflict management strategies.
- Summer courses and co-curriculum activities need to be developed to help

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nursing students improve their conflict resolution strategies.

▪ Further research is proposed to investigate the impact of the use of effective conflict resolution strategies on students' academic achievement.

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