

NURSING MANAGERS' COMPETENCY AND THEIR PROBLEM SOLVING STYLES

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Abstract

Nursing managers should enjoy appropriate competency level and knowledge that enhance their creative problem solving style. **Aim of the study:** The present study aimed to assess perceived nursing manager's competency, determine problem solving styles of nursing managers and detect the relation between nursing managers' competency and their problem solving styles. **Subjects and methods:** a descriptive correlation design was utilized to attain the aim of the present study. The study sample included 97 nurse managers working in Mansoura university hospital data was collected with using tool consisted of three parts: personal characteristics, Nursing Manager Competency Inventory (NMCI), and four sight problem solving style inventory. **Conclusion:** Majority of nursing managers had moderate level of competency. Majority of nursing managers had developer problem solving style and problem solving style level was moderate as perceived by the studied sample. There was significant relation between nursing manager competency level and problem solving style. **Recommendation:** Provide training programs to nursing managers to enhance their competency level. Provide training programs about the importance of creativity for enhancing organization ability and efficiency, and how managers can use their problem solving styles effectively. Draw up visions of nursing management in the future by health care organizations.

Key words: Nursing manager, Competency, Problem solving style

Introduction:

The dramatic reforms and changes in the health service in current years, rising from both strategy and review, have had, and will continue to have, a significant influence on the method in which the health service is managed¹. These changes brought about a requisite for managers to acquire new roles and develop new skills. The new managerial responsibilities located on organized nursing services request for nurse managers that are skilled, knowledgeable and competent in all aspects of management².

Competence is defined in terms of functional adequacy and the capability to incorporate knowledge, skills, approaches and beliefs in definite contextual situations of practice"³. Other definitions include essential abilities and capabilities to accomplish the job well, and use descriptive language such as capabilities,

traits, intelligence, and human capacities to define competence⁴.

Nurse Manager Competency is not only the performance or behaviors itself. But the repertoire of abilities, actions, procedure, and responses accessible that allows arranging of work requirements to be done successfully. This competency is not the same thing as performances, but it's what empowers the performances to happen and competency then is a concept that represents a constellation of the characteristics and abilities of the manager that leads to effective performance⁵.

Nurse Managers are directly in charge for maintaining standards of care, managing fiscal resources, and developing self. Their responsibilities differ from organization to another, but the most effective nurse managers identify the importance of point care leaders⁶. Key skills and competencies

that assist managers to be effective in their role are critical thinking that requires an active stance manager rather than a passive one, communication skills, networking ,managing resources such as budgeting and staffing, enhance nurses performance through monitoring, team building and evaluating effectiveness and efficiency. Another competencies needed are delegating, collaboration, coordination and outcome oriented ⁷.

Today, all responsible people in all affairs are recalled to high thinking skills and problem-solving whether in public field or in technology environment and whether in normal activities or in those activities which have problem, in most societies, it is supposed that we should more emphasize on increasing problem-solving skills ⁸. Since nursing managers are responsible for prediction, prevention and solving problems, so the problem-solving which including improving the quality, creating an intimate environment and applying an effective method, in fact it is regarded as one of the major skills of management ⁹.

Problem solving is defined as continuous thinking and selecting according to the desired goal .Fundamentally, the problem-solving is an attempt to find a solution for a problem ¹⁰. It was said that a problem happens when there is a goal to be reached and it is not obvious how to reach it. Some problems are well defined, while others are ill defined ¹².

In management, problems arise when changed or new situations happen and they repeatedly requisite novel solutions. Commonly, it is a challenge to understand solutions of problems by thinking in a predictable manner. Logical thinking uses our existing knowledge and takes inference rules to produce new knowledge. Conversely, as logical thinking grows in chains of steps, every one dependent on the previous, this new knowledge is merely an extension of what we already

know, rather than being actually new. It would appear; consequently, that logical thinking only has a restricted role to play in assisting managers for being creative. The requisite for creative problem solving has risen as an effect of the lacks of using imagination alongside with methods which use analogies, associations and other tools to support producing insights to problems¹².

Creative problem solving (CPS) is "defined as looking for original ways to achieve goals when the ways to do so are not readily obvious". A solver's abilities, styles, knowledge and other assets match to some degree the intellectual demands and complication of given problems. Problems may be solved by various ways, but the more efficient will consume less time, effort, and other resources for doing so ¹³.

Erozlean (2014) indicated that problem-solving results are mainly determined by orientation of the problem and problem-solving style¹⁴. **Treffinger, et al (2008)** defined problem-solving styles as constant individual alterations in the means people desire to plan and accomplish generating and concentrating actions, for increasing clarity, produce ideas, and arrange for action. This definition is attached with an individual or intrapersonal level of analysis as it incorporates a person's constant preference from a psychological point of view. Further, it comprises both divergent (generating) and convergent (focusing) classes of problem solving intended to gain clarity when face vague or ill-structured situational demands, creating unique ideas and alternatives, and building and developing options and plans for implementing original insights¹⁵.

There are four creative problem solving styles identified as clarifiers, ideations, developers and implementer. Clarifiers need a pure understanding of the problem and favor a systematic method for solving problems. Ideations enjoy toying with

notions and potentials. They take an intuitive attitude to origination. Developers like analyzing possible solutions and planning the phases to implement a notion. Implementers like to get things done. They permanently just do it. Each manager can and does utilize each aspect of their personality, but they may have tendency to overuse the problem solving style which is most comfortable, rather than the style which may be more suitable to the problem at hand¹⁶.

Significance of the study:

Strong managerial competencies have been recognized as key fundamentals to encourage health systems that are approachable to population needs. Given the requisite to implement health policies in reduced resources and challenging circumstances, health managers need to have managerial competencies. These competencies contain the behaviors, knowledge, skills, approaches and beliefs that inspire leadership and management activities¹⁷. It was said that knowledge can be utilized to produce and facilitate novel problem solving notions and that these notions can be used as the creation blocks from which to develop and offer excellence in service and other effective workplace practices¹⁸.

Aim of the study

This study aims to assess perceived nursing managers' competency and their problem solving styles at Main Mansoura University Hospital.

Research questions

RQ1:

What is the perceived nursing managers' competency?

RQ2:

What are the problem solving styles of nursing managers'?

RQ3:

Is there a relation between nursing managers' competency and their problem solving styles?

Subject and method

Research design:

Descriptive correlation design was used in the present study.

The study setting :

The present study was conducted at Mansoura University Hospital (MUH). The hospital Provides care at delta region and bed capacity is (1800) beds.

The study subject:

The study sample included all nurse managers available at the time of data collection in the previously mentioned settings. Their total numbers were 97 nurse managers classified as the following: (85) head nurses, (11) supervisors and (1) nurse director.

Tool of data collection:-

Data collection tool was including three parts; personal characteristics, Nurse Managers' Competency Inventory (NMCI) and Four Sight Problem Solving Styles Inventory

1st part:

Personal characteristics of nursing managers such as age, level of education, position, marital status, and years of experience and span of control.

2nd Part: Nurse Managers' Competency Inventory (NMCI):

This inventory was developed by Deonna (2006) which used to assess nursing managers' competency. It included 93 item divided into eleven competency domains: promote staff retention, recruit staff, facilitate staff development, perform supervisory responsibilities, ensure patient safety & quality care, conduct daily unit operations, manage fiscal planning facilitate interpersonal, group organizational communication, lead quality improvement initiatives, promote professional practice model, and develop self. The responses to each item on the (NMCI) according to the following 5-point Likert response scale:-

(1 = none of the time, 2 = occasionally, 3 = fairly many times, 4 = Very Often, 5 = Always)¹⁹.

The total scores of perceived competency questions ranged from 93-465. It was categorized into three levels based on cut of point50% as the following:

-Low competency < 50% (scored from 93-278)

-Moderate competency 50-75% (scored from 279-372)

-High competency > 75% (scored from 373-465)

3rd part:

Four Sight Problem Solving Styles Inventory (version 6.1) developed by **Puccio (2002)** used to assess creative problem solving styles. It consists of 37 items. The first item not scored and the four styles are clarifier (9 items), implementer (9 items), ideator (9 items) and developer (9 items).The responses ranged from 1=not like me at all, 2=like me and 3=very like me²⁰.

The total scores of problem solving styles questions ranged from 36-108. The scores of problem solving styles were categorized into three levels based on cut of point50% as the following:

-Low problem solving styles scores < 50% (scored from 36-71)

-Moderate problem solving styles scores 50-75% (scored from 72-90)

-High problem solving styles scores > 75% (scored from 91-108)

Validity:

It was recognized for face as well as content validity via a panel of five expertise's from faculties of nursing.

Pilot study :

A pilot study was carried out on 9 nurse managers as 10% of the study sample to test the clarity, feasibility of the questions and to determine the time needed to fill-in questions. Nurse managers who shared in the pilot study were excluded in the main study sample. Based on the pilot study, necessary modification includes

clarification, rewording. Reliability test of the study tools, nurse managers' competency inventory and four sight problem solving styles inventory, were tested by Cronbach's Alpha reliability was computed and found (0.901), (0.887) respectively.

Field work description:

Collecting data from nurse managers by explaining to each participant the aim of the study and take her acceptance.

Filling the questionnaire sheet acquired from 20–30 minutes; this time was dependent on the work conditions. Data collection for some participants was carried out through distribution of the questionnaire sheet to the subjects and handed back to the researcher upon completion. Field work of the present study was carried out in three months from end of February to the end of May, 2016

Administrative Design

An official permission was attained from Mansoura University Hospital administrator for conducting the study.

Ethical considerations:

Prior to the initial interview, explanation of the nature and the aim of the study were done by the researcher to entirely nurse managers included in the study. Furthermore, a verbal consent was attained from each participating prior to inclusion into the study. The researcher highlighted that the contribution is unconditionally confidential and voluntary as of the subjects' anonymity is assured absolutely through the entire study.

Statistical Design: The collected data were ordered, tabularized and analyzed statistically via SPSS software (Statistical Package for the Social Sciences, version 21, SPSS Inc. Chicago, IL, USA). For quantitative data, the range, mean and standard deviation were calculated. For qualitative data, comparisons between two groups and more were done using Chi-square test (χ^2). For comparisons between means of two groups of parametric data of

independent samples, student t-test was used. For comparisons between more than two means of parametric data, F value of ANOVA test was calculated. Relationship between variables was evaluated using Pearson's correlation coefficient (r). Significance was assumed at $p < 0.05$ for interpretation of results of tests of significance.

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Results:

Figure (1): Mean scores and ranking of perceived competency sub items by the studied nursing managers at Main Mansoura University Hospital (n=88).

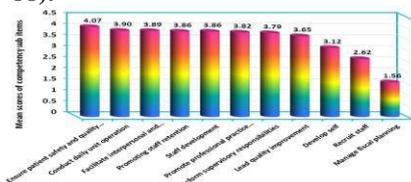


Figure (1) demonstrated mean scores of perceived competency sub items by the studied nursing managers at Main Mansoura University Hospital. The figure showed that competency sub items were compared and significantly different to mean scores. As ensure patient safety and

quality care was found the highest and ranked first. Whereas manage fiscal planning as sub item of nursing manger was significantly the lowest and ranked last one.

Figure (2): Levels of perceived total competency by the studied nursing managers at Main Mansoura University Hospital (n=88).

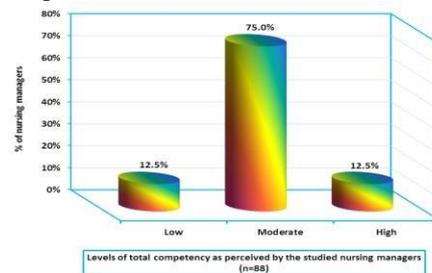


Figure (2) revealed that 12.5% of nursing managers were in low level and 75.0% of the studied sample in moderate level, while 12.5% of them were in high level.

Figure (3): Mean scores of problem solving styles of the studied nursing managers at Main Mansoura University Hospital (n=88).

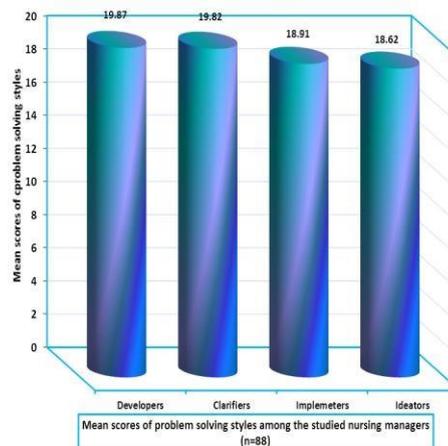


Figure (3) illustrated mean scores of problem solving styles of the studied nursing managers at Main Mansoura University Hospital. According to the figure developer problem solving style had significant high mean scores and ranked

first. Whereas ideator style had the lowest mean score and ranked the last one.

Table (1): Mean scores and levels of total problem solving styles scores of the studied nursing managers at Main Mansoura University Hospital (n=88).

| Total nursing managers' problem solving styles | The studied nursing managers (n=88) | |
|---|-------------------------------------|------|
| | n | % |
| Levels of total problem solving styles scores: | | |
| Low | 26 | 29.5 |
| Moderate | 56 | 63.6 |
| High | 6 | 6.8 |
| Mean scores of total problem solving styles: | | |
| Range (36-108) | 57-96 | |
| Mean±SD | 77.23±9.44 | |

Table (1) illustrated Mean scores and levels of total problem solving styles scores of the studied nursing managers at Main Mansoura University Hospital. This table indicated more than half of the studied sample of nursing managers (63.3%) had moderate level.

Figure (4): Correlation between Levels of perceived total competency by the studied nursing managers at Main Mansoura University Hospital and their levels of total problem solving styles scores (n=88).

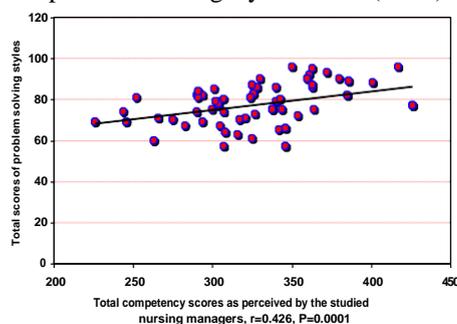


Figure (4) indicated a significant correlation between levels of perceived total competency by the studied nursing managers at Main Mansoura University

Hospital and their levels of total problem solving styles scores.

Discussion

Nursing manager's competency is vital to promoting healthy work environments, staff performance, staff retention and positive patient outcomes as patient satisfaction and patient safety. Nursing manager competency represented in mastering communication skills, conflict resolution skills and developing self, affects problem solving ability of nursing manager and approaches they adopt solving problems and thereby has a lot to do with their ultimate success in solving the problems ²¹.

The present study revealed that competency sub items related to ensure patient safety and quality of care is ranked (rated) highest followed by the sub item conduct daily unit operation. This may be due to the pressing need for delivering high quality, efficient care and ensuring patient safety. As MUH, serves the whole delta region and this means increased numbers of patient's admissions. These increase its quest for high quality and better patient safety. So, it seeks to increase awareness between nursing managers, especially head nurses that represent a great portion, about importance of being competent and congruent with updating issues of patient safety and quality of care. This is achieved through 24-hours responsibility for operation of a patient care unit and ensuring efficient application of nursing care.

These results agreed with **Fennimore& wolf (2011)** who indicated that management competency in ensuring safety and quality care is as vital to patient care as the care that is provided²². These results congruent by **Covey (2004)** who revealed that high quality health service do not happen without competent and skillful nursing manager²³. In the same line **Chase (2010)** reported that efficiently perform

quality care and improvement process have the highest rating²⁴.

The finding of this study in contrast with **Deona (2006)** who reported that performing supervisory responsibilities is rated highest competency domain by nursing managers¹⁹. As well, **Haurani et al. (2007)** found that communication and professionalism were rated to higher scores on the other competencies²⁵. Additionally, **Higa and Terviza (2005)**, who revealed that leadership is considered the most imperative competence and the efforts of nursing managers to cultivate such competence, strengthens the opinion that the job market is essentially demanding nurses have knowledge of leadership and apply such knowledge²⁶. As well as, **Mathena (2002)** conceptualize that staff development as a skill set needed by nurse managers to effectively support and lead nursing staff²⁷. And with **Rao (2007)** who found that job knowledge is the most vital competency requested to be successful on the job. He also indicated that effective communication skills, hard work, calmness, team skills are frequently used competencies of managers²⁸.

The finding of the present study indicated that competency sub item, manage fiscal planning is rated lowest by the studied nursing managers followed by recruit staff. This was unfortunately because of nurse manager in MUH has neither received training in the nursing program to successfully manage the budget nor been provided the opportunity to manage a budget under the guidance of a mentor. The hospital has not developed a succession or training program that would allow nursing managers to practice budget management skills. The policies applied in the hospital do not give the nursing managers the access to deal with budgeting and other fiscal issues as managing the pay roll, and monitoring the budget.

These results agreed with **Baxter (2013)** who found that financial management is the lowest rated perceived competency of the studied sample of nursing managers²⁹. As well, **Karathanasi, et al., (2014)** reported that financial management competencies were identified as the least necessary as perceived by nursing managers³⁰. And these finding was in the same line with **Kondrat's (2001)** who indicated low rating of financial management category³¹. In contrast, **MacLeod (2012)** revealed that financial management is noted to be one of the crucial categories of competence for success of nurse manager³². As well, **Clark (2015)** indicated that financial management and budgetary skills is a prerequisite necessity for competent nurse manager. As nurse manager have effect on the bottom line of health care organizations via controlling expenses of patient care on daily base³³.

The finding of the present study indicated that nursing managers had moderate level of competency. This may be due to the frequency of performing competency sub item, manage fiscal planning is low because majority of nursing managers don't participate in developing or monitoring the budget, or have the access to manage the pay roll. As well, the frequency of performing activities related to recruiting staff was low expect for encouraging potential job candidate's to have shadow experience and learn from experienced nurses. The hospital also promotes internship programs. Additionally small numbers of nursing managers showed high frequency of performing activities related to developing self as having membership of professional organization, delivering presentations to professional groups and play a leadership role in these organizations. This was agreed with **yang et al., (2014)** who reported that competency of nurse managers were in moderate range³⁴. As well, **khodgaria, et**

al., (2011) who reported that majority of the study sample was moderate competency level and they were proficient grounded on banner's skill acquisition model and after training interventions it was improved to high level³⁵.

These result in contrast with **pillay (2009)** who reported that there is a deficiency of management competency and capacity inside the South Africa public health sector. The fact that nurse managers in this sector appraised themselves as at least 'reasonably competent but not good' in all but one of the competencies submits that they lack confidence in their capacity either since they don't have the required management skills or as they lack self-credence. Anyway, this has the prospective to hinder service provision and the revolution of public sector into a more effective and efficient service³⁶. As well, **Meretoja (2004)** self-assessed overall scores indicated a high level of competence across categories. The Nurse Competence Scale data were normally distributed. The higher the frequency of using competencies, the higher was the self-assessed level of competence³⁷. In this respect, **Stobinski (2011)** indicated that significantly higher mean scores on the overall competency level in the studied group³⁸.

Analysis of data of this study revealed that developer creative problem solving style achieving the highest mean scores and ranked first followed by clarifiers, implementers and then ideators. This is due to nursing managers not only stops on generating ideas that are useful to solve ill-defined problem that arise from their complex working environment, but also are concerned with practical applications and the reality of the task. They strive for more revising and break the board problem into steps to examine it clearly from all angles. Also, they need to explore the strengths and weakness of the potential solutions and take time to develop a

workable solution for such complex problem. And this is agreed with **Treffiner, et al., (2008)** who reported that higher scores are achieved by developer problem solving styles than other styles¹⁵. As well, **Fitzjarrell (2011)** who indicated the highest percentage of participants reported a preference for the developer problem-solving style³⁹. And in contrast with **Puccio, et al., (2004)** who found that the implementer creative problem solving style having the highest mean scores followed by ideators, clarifier and the least mean scores is for developers⁴⁰. In this respect, **Mann (2003)** reported that clarifiers creative problem solving style was the most common among managers and was the dominant style preference for nine of eleven of the subject area groups identified⁴¹. In the same line, **Ding (2013)** reported that a relatively larger percentage of the studied sample with high preference of clarifier, followed by ideator, implementer and developer⁴².

Additionally, **Wellman (2014)** indicated that the dominant creative problem solving style was implementers of the study sample⁴³.

The finding of the study revealed that levels of the total problem solving scores as perceived by the studied sample nursing managers are moderate. This may be due to the creative problem solving styles is a new concept to deal with in such working environment that carried many factors that hinder creativity in problem solving. Insufficient access to information decreases manager knowledge that in turn affecting their creative problem solving capacity. They receive little direction, and guidance that allowing for more Successful creative problem solving. Hence, all of this affecting their perception to their problem solving style in creative problem solving process. And these results consistent with **Terzioglu (2006)** who reported that the total average score of the nurse managers' problem-solving was

moderate. The manner nurse managers participating in this study perceived themselves in problem-solving that they have problem-solving skills at a desired level⁴⁴.

The finding of the study also revealed that perceived level of competency of the studied sample nurse manger was significantly related to levels of total problem solving styles. This is due to increased level of competency means increased knowledge and management skills as leadership, teambuilding, motivation and conflict management for effective performing the job. In such complex working environment in MUH, that characterized with poor resources of materials and manpower's and acuity of care. These engaging managers in creative activities to deal with complex and ill-defined problems that arise and making them seeking to more information that in turn enhance their problem solving styles. And this is agreed with **Buoncontro and Ghosh (2014)** who reported that the greater employee's competency and creative self-efficacy. The further they expected creative behaviors of him or her and of the creative work environment⁴⁵. As well, **Mumford, et al, (2002)** discussed creative work as being contextualized and indicated that the success of creativity rest on the competencies, capabilities, forces, capitals, and socio technical system in which employees find themselves⁴⁶.

Conclusion

Nursing managers at MUH had moderate competency level. On the other hand, the level of total problem solving styles as perceived by nursing mangers was moderate. Furthermore, a developer problem solving style was the dominant. There was significant relation between nursing manger competency level and problem solving style.

Recommendation

- Establish systems, protocols, policies and strategy to enhance

nursing manger competency level related to managing financial planning and recruitment activities.

- Provide training programs to nursing mangers to enhance their competency level.
- Provide training programs about the importance of creativity for enhancing organization ability and efficiency, and how mangers can use their problem solving styles effectively.
- Use the finding of the study as a blue print to improve working environment that foster competency and creative ability of the nursing mangers.
- Seek continuous learning opportunities for nursing mangers and membership in professional nurse organizations that facilitating their professional development.
- Incorporate a competency-based assessment format in future selection of nursing managers' at all three levels. A broader and more structured approach may be needed.
- Develop and communicate a managerial competency model formally to employers and staff representatives, personnel managers, and others involved in nursing manager selection.

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