

Full Length Research Paper

Training needs assessment and preferred approach to enhancing work performance among clinical nurses in University College Hospital (UCH), Ibadan, Oyo State, South-western Nigeria

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Nurses are a very important group of healthcare providers whose professional competence is central to effective health care delivery. Clinical service delivery is constantly evolving and healthcare providers require periodic training for contemporary professional skill. This study assessed the training needs and preferred approach to enhancing work performance among clinical nurses in University College Hospital, Ibadan, southwestern Nigeria. This was a descriptive cross-sectional study conducted among clinical nurses/midwives in University College Hospital (UCH), Ibadan south-western Nigeria. Stratified sampling technique was used to select study participants. A 30-item World Health Organization (WHO) training assessment tool adapted from the Hennessy Hicks Training Needs Analysis questionnaire was used for data collection. It was a self-administered questionnaire containing a set of tasks which focused on major job subcategories essential to role of healthcare professionals. Data was analyzed based on the Hennessy Hicks guidelines. Results were presented using tables and graphs. Two hundred and ninety-nine respondents participated in the study. The mean age of the respondents was 38.4±7.9 years. Almost 50% of the respondents had spent over ten years working in the profession since qualification. Respondents reported they needed training in all the stated job sub categories and tasks. The preferred approach to enhance performance reported by respondents was training courses/programs. This study showed the importance of training needs assessment in identifying gaps where training is needed for maximum impact among the nurses. Training program was the preferred approach to enhancing work performance among the study participants.

Key words: Training needs, clinical nurses, performance, research.

INTRODUCTION

Training as well as continuous training has been advocated for in health system management because of the need to provide quality, efficient and affordable care to the people (World Health Organisation, 2015).

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Achieving universal health coverage requires a health sector with health care practitioners who are highly skilled, and well informed in clinical practice and work-related tasks for optimum care (Mullan et al., 2012; World Health Organisation, 2015). Globally, health care professionals are the most important factor in strengthening the health system, hence the need for them to go through adequate training to obtain the competency and skills required to deliver optimum care and save lives (Adeloye et al., 2017).

Training Needs Assessment (TNA) is the method of determining if there is a performance capacity gap, and the approach preferred by the people to fill the identified gap (Sleezer et al., 2014). TNA identifies individuals' current level of competency, skill or knowledge in one or more areas and compares that competency level to the required competency standard established for their positions or other positions within the organization (Kirkpatrick and Selena (2008); Sleezer et al., 2014). It enables organizations to identify the actual training needs and evaluate its implementation effectiveness. TNA is an important contribution towards the development and maintenance of health workers' competencies, knowledge and skills improvement for delivering quality services. In addition, capacity building of healthcare providers which involves training and education has been said to improve their knowledge and skills (Mullan et al., 2012; Sajadnia et al., 2015).

In Low-middle income countries, attention and support to the healthcare workforce has not received the priority it deserves in terms of training and continuous education. This may lead to poorly qualified healthcare professionals who are unable to render quality services, and thus poor health outcomes among the populace (Omaswa, 2014). Studies have documented that the basis of nursing profession is a good educational system that must be supplemented with a continuing education and training in order to evaluate the efficiency of the education (Yoder-Wise and Brigher, 2018). Nurses from different cultures and educational backgrounds all work together and influence one another's work role and responsibilities, consequently both positively and negatively with impact on patients/clients health and the healthcare system at large (Baron, 2017).

Most healthcare professionals in Nigeria like the nurses have professional bodies that serve as a regulatory platform saddled with the responsibility of ensuring that members adhere to the principles guiding the profession (Mora et al., 2018). Such trainings are usually based on organizational goals rather than the employee's expectations, responsibilities or his perceived importance as a result of the feedback from his daily activity (Gavranos and Newton, 2014). TNA among employees therefore provides the opportunity for feedback which is essential in providing appropriate training for the employee and ultimately for organizational growth.

Furthermore, studies have reported that organizational development and training are of utmost importance in

improving employee's work performance with resultant organizational growth (Delmas and Pekovic, 2013). However, training program has been reported to be more relevant in improving employee's competency and overall organizational performance particularly when it is planned with contributions from both the employees and the employing institution in line with organizational goals (Barratt and Fulop, 2016; Khan et al., 2011).

Studies have also shown that training increases job satisfaction and improve individual as well as organizational productivity, performance and overall quality of services (Hagan, 2018). However, research works have shown that health care professionals in low resource settings have inadequate and often inappropriate provider training plans which is usually a top down approach (Das et al., 2012). This study therefore identified the training needs and preferred approach to enhancing work performance among nurses in the University College Hospital, Ibadan, south western Nigeria. Findings from this study would be of use for performance improvement efforts for clinical nursing services in similar settings.

MATERIALS AND METHODS

Study area

The study was carried out at the University College Hospital (UCH), Ibadan the capital of Oyo State, South-Western Nigeria. The city of Ibadan was the center of administration in the old Western Region. It is situated 125 kilometres inland from Lagos and is a prominent transit point between the coastal region and the areas to the north. It is known to be one of the largest indigenous cities in Africa. University College Hospital, Ibadan, a 1000 bed health institution, is the first teaching/tertiary hospital in Nigeria. In addition to providing clinical services, it also engages in research and training of diverse categories of health and medical personnel including nurses, physicians (clinical, laboratory and public health disciplines), laboratory scientists, and other allied health workers.

The study population was clinical nurses across all the cadres and departments in the UCH. There were a total of 1,488 clinical nurses across the different cadres in the Hospital as shown in Table 1.

Study design

This was a descriptive cross-sectional study. Data was collected from all cadres of nurses and midwives with the aid of a self-administered, WHO-Hennessey-Hicks performance improvement assessment tool (Hennessey and Hicks, 2011).

Sampling technique

Study participants were drawn from all categories of nurses using a stratified sampling technique. Participants were proportionally selected as shown in Table 1. Clinical nurses who were on contract job those undergoing internship, non-clinical nurses such as public health nurses and nurse tutors were excluded from the study.

Sample size

This was calculated using the formula for single proportion by Kish

Table 1. Distribution of clinical nurses across different cadres in UCH Ibadan.

S/N	Cadre	Number of nurses	Proportional allocation
1	Director of Nursing (DN)	1	1
2	Deputy Director of Nursing (DDN)	15	3
3	Assistant Director of Nursing (ADN)	231	54
4	Chief Nursing Officer (CNO)	328	78
5	Assistant Chief Nursing Officer (ACNO)	253	60
6	Senior Nursing Officer (SNO)	96	23
7	Nursing Officer 1 (NO1)	101	24
8	Nursing Officer II (NO II)	461	110
9	Staff Nurse (SN)	2	2
	Total	1,488 (N)	355 (n)

and Leslie (Kirkwood and Sterne, 2003);

$$n = \frac{z^2 p(1-p)}{d^2}$$

Where, n = Sample size, $Z\alpha^2$ - statistics level corresponding to 95% confidence interval = 1.96, p = Proportion of health care professionals who had undergone work-related training, q = 1-p and d – precision level = 5% (0.05).

The proportion of health care professionals (70%) who had undergone work-related training in a study by Gaspar was used in calculating the sample size (Gaspard and Yang, 2016). The sample size was computed as follows:

$$n = \frac{1.96^2 * 0.7 * 0.3}{0.05^2}$$

$$= 3.84 \times 0.7 \times 0.3 / 0.0025$$

$$= 0.8064 / 0.0025$$

$$= 323$$

$$\text{Assuming a non-response rate of 10\%; Non response} = \frac{10}{100} \times 323$$

$$= 32$$

Therefore, minimum sample size for the study was 323 + 32 = 355.

The justification for the use of Kish and Leslie formula for calculating the sample size is based on the fact that it is applicable in situations in which the study population is below 10,000. Hence, for this study, with a total of 1,488 clinical nurses in UCH Ibadan, it was considered appropriate.

Description of data collection tool and technique for the assessment of item/task scores

Hennessy-Hicks Training Needs Analysis Questionnaire, adopted by the World Health Organization as a training assessment tool was used for this study (Hennessy and Hicks, 2011). This instrument has been psychometrically tested for validity and reliability in previous studies and has been used widely to identify and categorize training needs among health care professionals such as community and hospital based nurses (Hennessy et al., 2006; Hicks and Fide, 2003; Hicks and Hennessy, 2001). It was thus modified to suit the study audience and objectives of this study. There are principally 30 items in the questionnaire which cover five sub categories; research, communication/teamwork, clinical/service

delivery assessment, administration, supervisory/managerial task. The questionnaire has 3 sections;

Section one: comprises of relevant socio-demographic characteristics of respondents such as age, sex, job title/specialty, department, number of years post qualification and years spent in service.

Section 2: comprises of 30 job tasks.

Section 3: comprises of open-ended questions to state specific preferred improvement approach in order of importance.

In section two, respondents were required to rate how important each task was to their work performance (importance). They also rated their own perceived performance of each task (performance). In section three, respondents rated preferred improvement approach for each task. The 30 tasks belong to one of the five super-ordinates categories of task as shown here; – research/audit (items 3, 6, 7, 9, 15, 21, 25, 26), communication/teamwork (items 1, 5, 8, 13, 14, 27), clinical tasks (items 10, 12, 17,18, 22, 24), administration (items 2, 20, 29) and management/supervisory task (items 4, 11, 16, 19, 23, 30). The study instrument was administered in English Language which is the language of communication among the participants in this profession at the workplace in Nigeria. The copies of questionnaire were taken to all departments in the hospital and were completed by nurses who consented to participate in the study. The questionnaire was self-administered however, there were interviewers for participants who did not wish to complete it by themselves and also for those who needed clarifications.

Data analysis

Data were cleaned, coded and entered into the computer using Statistical Package for Social Sciences (SPSS) version 22. This was also used in generating the mean age of respondents. Respondents' ages were categorized into five-year age groups. Frequency table was generated. Simple graphs were used to graphically present training needs and preferred development options.

Respondents rated each item in the tool along seven-point scale for 'importance' and 'performance'. Each item was also scored on the seven-point scale regarding two approaches (that is organizational development and training) to address gaps identified. The ultimate outcome of the scoring was to derive training needs gap, and also to assess which of the two approaches, training or organizational development is perceived by respondents as a better means in bridging the gaps identified.

Firstly, the items were clustered into five sub categories of skill

areas and the difference in the value of importance rating and that of performance rating was calculated for each respondent (that is deduct performance score from the importance score). High scores on importance and low scores on performance indicate a training need and this gives the training need gap for each sub category of task. The higher the difference score, the greater is the training needs.

Secondly, the training need gap was explored for each of the 30 tasks for each respondent. The gap identified was derived from a difference between two similar rating scales; one assessing respondents' perceived importance of each of the 30 tasks and the other assessing respondents' perceived performance of each of the 30 tasks at their job. Thus, if the respondent rated a task higher in importance than he rated his perceived performance of that task at work, it would imply that there is a gap for that task to be improved in order for the task performance to match up with the importance of the task to the job. Similarly, regarding the perceived approach needed to bridge the gap to enhance performance on each task, two approaches were scored; one approach is the organizational development and the other is the training course approach. This instrument was quantitatively scored and four bars were plotted for each of the 30 tasks. This enables an instant side-by-side qualitative visualization of the following: 1) perceived importance of the task to the job, 2) respondents' perception of personal performance on the task, 3) perceived ability of organizational development approach in bridging the gap, and 4) perceived ability of training courses approach in bridging the gap. Thus, regarding training needs, respondents rated each item on seven-point scale according to two criteria: how critical the task is to the successful performance of the respondent's job (importance rating criterion) and how well the respondent is currently performing the task (performance rating criterion). The ratings for the first criterion provided an overall occupational profile of the respondent's job, and that of the second criterion provided an index of the skill level or performance. In addition, the average for the following was calculated for all the respondents, and the basic 30-tasks on the questionnaire;

1. The importance scores on each item - Rating A
2. The performance scores on each item - Rating B
3. The importance of organizational development on each task in enhancing performance -Rating C
4. The importance of training courses on each task in enhancing performance - Rating D.

These average scores were then represented on the graph which was generated using the SPSS software. The vertical axis represents the 30 items, while the horizontal axis represents the scores from 1-7. Four distinct lines were derived on the graph for each of the 30 items. They were represented as follows; Rating A: average importance score, Rating B: average performance score, Rating C: importance of organizational development in performance enhancement, and Rating D: importance of training courses in performance enhancement. Other information displayed on the graph were; gaps between the importance and performance scores which indicated the degree of training need for each of the tasks, as well as the importance of either organizational development or training course in enhancing tasks performance. This will assist in understanding how best to address the training needs requirement.

Ethical considerations

Ethical approval for the study was obtained from the University of Ibadan/University College Hospital Ethics Review Committee (HREC:UI/EC/18/0648). Participants were informed of their right to decline or withdraw from the study at any stage of the study without any adverse consequences. Verbal informed consent was obtained from respondents before administering the

questionnaire. Confidentiality study participants was ensured.

RESULTS

A total of 299 respondents participated in the study with response rate of 84.2%. The mean age of respondents was 38.4 ± 7.9 years. Most were in the 35-39 years age group. About four-fifth (82%) of the respondents were females and 70% had a degree in Bachelor of Nursing Science. Almost half (49.5%) of the respondents had spent 10 to 19 years working post qualification work experience. One-fifth (22%) of the respondents were low cadre nursing staff and fewer proportions were distributed in the upper cadre. Only 15% had spent more than four years in the current position (Table 2).

Figure 1 shows the training needs of respondents under the five sub-categories of tasks. Respondents reported they require training in all the sub categories. Communication/teamwork had the highest training needs with the score of 1.1, followed by research/audit with a score of 1.04. Clinical skill/task has the lowest training need with a score of 0.75.

Figure 2 shows the research training priorities among the study respondents. For all the 30 tasks, respondents perceived importance (rating A) was scored higher than the respondents' perceived performance of the task (rating B). Rating A ranged from the lowest score of 5.8/7 'getting on with your colleagues to a highest score of 6.8/7 for the task 'showing colleagues and students how to do things'. Rating B ranged from the lowest task 4.1/7 'establishing a relationship with the patient' to the highest score of 5.8/7 for the task 'treating patients'.

For each of the 30 tasks explored, the difference between perceived importance (rating A) and performance (rating B) was high. Thus, indicating training need gap for all the tasks. This difference was highest for the item 'establishing a relationship with patients' 1.9/7 and lowest for the items 'introducing new ideas at work' and 'treating patients' 0.5/7.

As regards, enhancing performance at work, the importance of organizational development (Rating C) had the lowest ratings on 'doing paper work and or routine data inputting' with score 4.9/7 and 'identifying viable research topics' with a score of 4.9/7. Rating C had highest rating for 'showing colleagues and students how to do things' and 'making do with limited resources with score of 5/7. Rating D (importance of training courses) had higher rating for all the tasks from 'communicating with your patients face to face' 5.6/7 to 'statistically analyzing your own data' 6.4/7. Overall, rating D (importance of training courses) had higher scores for all the 30 tasks as compared with rating C (the importance of organizational development) with reference to the preferred approach to enhance work performance.

DISCUSSION

Nurses play a vital role in patient care and overall

Tables 2. Respondents socio-demographic characteristics.

Variable	Frequency (%) (n=299)
Age group (years)	
<30 years	40 (13.38)
30-34	61 (20.4)
35-39	80 (26.76)
40-44	52 (17.39)
≥45	66 (22.07)
Mean age ±SD (years)	38.4 ± 7.9
Sex	
Male	53 (17.73)
Female	246 (82.27)
Cadre	
DDN	2 (0.67)
ADN	49 (16.39)
CNO	62 (20.74)
ACNO	52 (17.39)
SNO	23 (7.69)
NO1	43 (14.38)
NO2	68 (22.74)
Highest level of education	
MSc	23 (7.69)
BNSc	210 (70.23)
Diploma	66 (22.07)
Years spent in current post	
1 year	72 (24.08)
2 years	108 (36.12)
3 years	73 (24.41)
4years and above	46 (15.38)
Years since qualified	
< 10 years	81 (27.09)
10 – 19 years	148 (49.5)
20 years and above	70 (23.41)

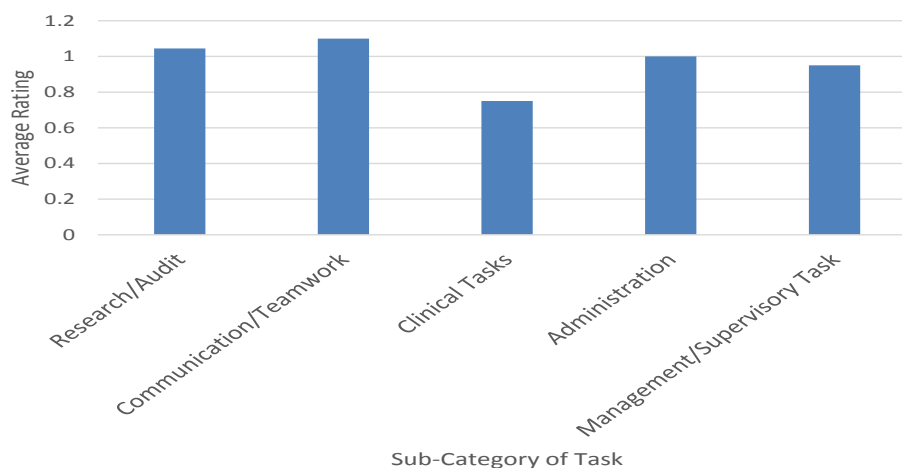
**Figure 1.** Respondents training needs according to sub-category of tasks.



Figure 2. Training priorities and preferred training approach among the respondents.

healthcare system hence it is important that they keep up with new information about improvement in all aspects of patient care. This study assessed the training needs as well as the preferred performance improvement methods among clinical nurses at the University College Hospital (UCH), Ibadan, Nigeria. The result of the current study indicated that clinical nurses have wide gaps in training needs and the preferred method of improvement was training courses which would enhance their job performance.

About four-fifths of the nurses were in the early

adulthood to middle aged. More than half had spent considerable length of time working as clinical nurses since qualification. This research shows that the study population was relatively young and active in clinical nursing service delivery. This is reported in similar studies (Hicks and Tyler, 2002; McCaughan et al., 2002). This is a favourable finding, as studies have shown young people to be more amenable to trainings in order to acquire new skills (Emine et al., 2017).

They are also known to be more innovative (Renolen, et al., 2018). These attributes will assist organizational

performance in the health system and thus, better individual and population health outcomes.

In this study, the nurses reported training needs for all the sub categories of tasks. This is similar to another study among health care professionals in a developing country (Gaspard and Yang, 2016). Respondents reported they need training in communication/teamwork sub-category more than other categories. Some studies also reported similar results (Emine et al., 2017; Pascoe et al., 2007). Effective communication is essential in information exchange among healthcare workers and when managing patients. Effective communication have been reported to minimize industrial conflicts and as well as useful in resolving conflicts. This is more important this environment where inter-professional conflict is common and has led to unnecessary set back in the health system (Adeloye et al., 2017).

Respondents perceived importance of job tasks were rated high for all the 30 tasks such as; showing colleagues/students how to do things, identifying viable research topics, statistically analyzing own data, accessing relevant literature for clinical work, assessing patients' clinical needs and treating patients to mention a few. However, the respondents' perception of personal performance on the job as regards the 30 tasks were rated low. This showed a considerable need gap for the stated tasks and indicative of training as the case may be. This also is an indication that nurses will embrace training programmes in the areas identified when opportunity present itself. A study by Hennessy on training needs among midwives in Indonesia documented similar reports (Hennessy et al., 2006).

Gaps were identified in all the stated tasks and majority of the respondents required training for all the tasks. For example, respondents' performance rating was scored low for tasks such as, establishing a relationship with patients, treating patients, identifying viable research topics and assessing patients' clinical needs which ranked them as commonly reported needs. This suggests that respondents were aware of the importance of these tasks and their inadequate capacity to carry out the identified tasks optimally. Again, this is a reason for training to fill the gaps in these tasks.

Previous studies have shown that clinical nurses fall short when it comes to research; the expectation is reportedly higher for nurses working in tertiary health institutions, however, nurses are rarely involved in scientific research (Hagan, 2018; Keller et al., 2013). Various studies highlighted different reasons for the inadequate research activities in the nursing profession. A study reported that nurses often perceived that research needs may not be necessary in their profession (Chan et al., 2011). Other studies documented nurses' limited research knowledge, capabilities, busy schedules, unavailability of resources, lack of funds and inadequate institutional support for such (Barratt and Fulop, 2016; Hagan, 2018; McCreadie et al., 2018; Polit and Beck,

2006; Renolen et al., 2018). However, as it is to any other profession, scientific research is crucial to the development of nursing profession as it enables evidence-based knowledge to be accumulated and used by nurses to advance the quality of nursing care in clinical settings. It is imperative that policy stakeholders should implement strategies to enhance nurses' interest and involvement in research work.

There was also a gap in treating patients and assessing patient's clinical needs as reported by the respondents. This is similar to other studies that reported clinical nurses requiring training about drug application, electrocardiogram and its interpretation, emergency care and cardiopulmonary resuscitation (Avsar and Kasikci, 2011; Kuzeyli et al., 2008; Oyur Celik et al., 2009; Ozkul et al., 2012). This is an important aspect of patient care that requires periodic or regular update especially in areas of emergency medicine and intensive care units. Moreover, consistent training is essential because nurses perceived and actual needs vary with changing situations such as work patterns which change with time, environment, fluctuating patient loads, availability and accessibility of resources to perform different tasks.

This study also showed that respondents' preferred approach to improve their work performance was training courses/program as compared with organizational development. Training is essential for clinical nurses as it improves knowledge as well as development of essential skills. Many studies demonstrated and considered training courses as very important and necessary for health care workers including nurses in improving their work performance (Hennessy et al., 2006; Ni, Hua, Wallen, Xu, and Li, 2014; Omaswa, 2014; Zarpavar et al., 2013). Therefore, training programs should be planned regularly with contributions from nurses on grey areas in nursing care, aspects requiring updates, evolving clinical practices, communication and management. This will upskill the nurses in terms of critical thinking, decision making and even conflict management. It will also enhance their knowledge as researchers and administrators. Overall, it gives a sense of accomplishment, job satisfaction and inclusive organizational goal.

Needs assessment studies are essential and more useful in the health systems of low-middle income countries like Nigeria where there is a chronic constraint of manpower, financial and material resources. It helps to prioritize training needs based on available resources, pressing health needs of the people and as dictated by employee requirements. This approach enhances efficient utilization of scarce resources and enhance maximum concentration on delivering quality care.

This study utilized a standardized validated tool (Hennessy-Hicks questionnaire) which evidently demonstrated the training need gaps among nurses in this study. However, this research was conducted among nurses in a tertiary hospital in southwest Nigeria and did

not involve those at the secondary and primary care levels of care. It did not also involve nurses in private sector. Hence caution should be exercised in generalizing this study findings. Furthermore, this study focused only on the nurses – employee and did not involve the employing institution. Exploring the training need assessment among the employers will complement findings in the present study.

Conclusion

This study showed that the nurses had huge training need gaps which spanned across many domains including patient care, communication, research and management. It also revealed that respondents' preferred approach for performance improvement was training. It is recommended that hospital management team in the study setting adopt these study findings, implement training workshops or on-the job trainings to enable nurses acquire necessary skills for performance improvement. It will add to efforts in strengthening the health system. This will benefit individual health care consumers and the public at large.

CONFLICT OF INTERESTS

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

REFERENCES

- Adeloye D, David RA, Olaogun AA, Auta A, Adesokan A, Gadanya M, Opele JK, Owagbemi O, Iseolorunkanmi A (2017). Health workforce and governance: the crisis in Nigeria. *Human Resources for Health* 15(1):32. doi:10.1186/s12960-017-0205-4
- Avsar C, Kasikci M (2011). Evaluation of patient education provided by clinical nurses in Turkey. *International Journal of Nursing Practice* 17(1):67-71.
- Baron KA (2017). Changing to Concept-Based Curricula: The Process for Nurse Educators. *The Open Nursing Journal* 11:277-287. doi:10.2174/1874434601711010277
- Barratt H, Fulop N (2016). Building capacity to use and undertake research in health organisations: a survey of training needs and priorities among staff. *BMJ Open* 6:e012557. doi:10.1136/bmjopen-2016-012557
- Chan GK, Barnason S, Dakin CL, Gillespie G, Kamienski MC, Stapleton S, Williams J, Juarez A, Li S (2011). Barriers and perceived needs for understanding and using research among emergency nurses. *Journal of Emergency Nursing* 37(1):24-31. doi:10.1016/j.jen.2009.11.016
- Das J, Holla A, Das V, Mohanan M, Tabak D, Chan B (2012). In urban and rural India, a standardized patient study showed low levels of provider training and huge quality gaps. *Health Aff (Millwood)* 31(12):2774-2784. doi:10.1377/hlthaff.2011.1356
- Delmas M, Pekovic S (2013 February). Environmental standards and labor productivity: Understanding the mechanisms that sustain sustainability. *Journal of Organisational Behaviour* 34(2):230-252.
- Emine K, Emine I, Mehtap T (2017). Training needs of clinical nurses at an university hospital in Turkey. *Nurse Education in Practice*, 22:15-20. doi:10.1016/j.nepr.2016.11.004
- Gaspard J, Yang CM (2016). Training needs assessment of health care professionals in a developing country: The example of Saint Lucia. *BMC Medical Education*, 16. doi:10.1186/s12909-016-0638-9
- Gavranos M, Newton J (2014). Exploring ward nurses' perception of continuing education in clinical settings. *Nurse Education Today* 34:655-660.
- Hagan J (2018). Nurse satisfaction with opportunities to engage in research. *Western Journal of Nursing Research* 40(2):209-221. doi:https://doi.org/10.1177/019394591668247
- Hennessy D, Hicks C, Koesno H (2006). The training and development needs of midwives in Indonesia: paper 2 of 3. *Hum Resour Health*, Apr 4(9).
- Hennessy DA, Hicks CM (2011). HENNESSY-HICKS TRAINING NEEDS ANALYSIS QUESTIONNAIRE AND MANUAL - Training assessment tool. (University of Birmingham, UK - Licensed to WHO for on-line use). Retrieved from https://www.who.int/workforcealliance/knowledge/resources/hennessyhicks_trainingneedsquest/en/
- Hicks C, Fide J (2003). The educational needs of non-specialist breast care nurses. *Nurse Education Today* 23:509-521.
- Hicks C, Hennessy D (2001). An alternative technique for evaluating the effectiveness of continuing professional development courses for health care professionals: a pilot study with practice nurses. *Journal of Nursing Management* 9(39-49).
- Hicks C, Tyler C (2002). Assessing the skills for family planning nurse prescribing: Development of a psychometrically sound training needs analysis instrument. *Journal of Advance Nursing* 37(6):518-531.
- Keller K, Turner A, Speroni K, McLaughlin M, Guzzetta C (2013). National survey of hospital nursing research, Part 2; facilitators and hinderances. *Journal of Nursing Administration* 43:18-23.
- Khan R, Khan F, Khan M (2011 July). Impact of training and development on organizational performance. *Global Journal of Management and Business Research* 11(7):62-68.
- Kirkpatrick SA, Selena R (2008). How to conduct a Training Needs Assessment. Society for human resources management. St. Louis: Mosby – Elsevier. Retrieved from <https://www.shrm.org/resourcesandtools/hr-topics/organizational-and-employee-development/pages/knowassessmenttools.aspx>
- Kirkwood B, Sterne J (2003). *Essentials of Medical Statistics* 2nd Edition. 2nd ed.: Blackwell Scientific Publications.
- Kuzeyli Y, Fadiloglu C, Uyar M (2008). Knowledge and attitudes of Turkish oncology nurses about cancer pain management. *Pain Management Nursing* 9(1):17-25.
- McCaughan D, Thompson C, Cullum N, Sheldon T, Thompson D (2002). Acute care nurses' perceptions of barriers to using research information in clinical decision-making. *Journal of Advance Nursing* 39(1):46-58.
- McCreadie M, Kuzemski D, Griffiths J, Sojka E, Fielding M, Al Yateem N, Williams J (2018). Developing nursing research in the United Arab Emirates: a narrative view. *International Nursing Review* 65(1):93-101.
- Mora AT, Ibrahim A, Jatau AI (2018). Role of selected healthcare regulatory agencies in Nigeria. *West African Journal of Pharmacy* 29(1):92-100.
- Mullan F, Frehywot S, Omaswa F, Sewankambo N, Talib Z, Chen C (2012). The Medical Education Partnership Initiative: PEPFAR's effort to boost health worker education to strengthen health systems. *Health Aff (Millwood)* 31(7):1561-1572. doi:10.1377/hlthaff.2012.0219
- Ni C, Hua Y, Wallen G, Xu S, Li I (2014). Continuing education among Chinese nurses : a general hospital based study. *Nurse Education Today* 34:592-597.
- Omaswa F (2014). Solutions for Africa's health workforce crisis through Country Based Research. *Human Resource Health* 12(1):1-2. doi:10.1186/1478-4491-12-S1-11
- Oyur Celik G, Kiyar S, Tokem Y, Yildirim Y, Dolek M, Akpınar C, Turaba F (2009). An analysis of training needs of the nurses at the emergency services Izmir. *Turk. Acil TipDergisi- Turkish Journal of Emergency Medicine* 9(2):59-64.
- Ozkul OH, Yurtseven D, Mutlu S (2012). Evaluation of continuing education about basic nursing practices Okmeydani Tip Dergisi- *Journal Okmeydani Medicine* 28(3):146-150.
- Pascoe T, Hutchison R, Foley E, Watts I, Whitecross I, Snowdon T

- (2007). The educational needs of nurses working in Australia general practices. *Australia Journal of Advance Nursing* 24(3):33-70.
- Polit D, Beck C (2006). International differences in nursing research 2005-2006. *Journal of Nursing Scholarship* 41(1):44-53.
- Renolen A, Hoy S, Hjalmlhult E, Danbolt L, Kirkevold M (2018). Keeping on track Hospital nurses struggle with maintaining workflow while seeking to integrate evidence-based practice into their daily work: a grounded theory study. *International Journal of Nursing Studies* 77:179-188.
- Sajadnia Z, Sadeghi A, Kavosi Z, Zamani M, Ravangard R (2015). Factors affecting nurses' motivation for participating in the in-service training courses: a case study. *Journal of Health Management and Informatics* 2(1):21-26.
- Sleezer CM, Russ-Eft DF, Gupta K (2014). *A practical guide to needs assessment*: John Wiley & Sons, Inc. All Rights Reserved.
- World Health Organisation (WHO) (2015). Synthesis paper of the thematic working groups. Health workforce 2030 - Towards a global strategy on human resources for health Retrieved from https://www.who.int/hrh/documents/synthesis_paper_them2015/en/
- Yoder-Wise SP, Brigher AS (2018). *Leading and managing in nursing* (Seventh ed.): St. Louis: Mosby – Elsevier.
- Zarparvar S, Hassani M, Kabiri A, Sameri M (2013). Studies in servicetraining effectiveness in nursing group of Imam Reza Hospital. *Journal of Urmia Nursing and Midwifery Faculty* 11(9):738-744.