

Integrative review of intervention programmes for school health nurses about their activities in school environment (2)

Abstract

This paper reviews descriptive and quasi-experimental studies on the intervention programme developed for school health nurses in different activities they perform in the school environment. The review was as a result of the need to conduct an integrative review of intervention programmes developed for school health nurses on guiding adolescents about their reproductive health. However, there is a dearth of studies on this particular area, and this prompted the authors to expand the scope to cover the intervention programme developed for school health nurses in other areas of concern. Two review questions were raised which prompted the search for articles to provide necessary answers. Computerized database, ancestry and extensive search strategies by titles of research reported in English between 2000 and 2015 located diverse intervention programmes. A total of 1980 articles were retrieved from which 11 were reviewed after series of filtering based on titles, abstracts, full texts, and duplicates had taken place. A broad range of intervention programmes were reported. The key elements common in all the intervention programmes include: knowledge of the content and skill enhancement, skills in interpersonal communication, the use of role plays, small group discussions, and lectures as a means of communicating messages to the participants, and resources such as facilitators. The intervention outcomes showed that there was enhancement in skills and knowledge of school health nurses in the various areas after workshops and seminars had taken place.

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Introduction

The integrative review helped in analysing the important aspects of those programmes and in discovering the studies conducted, and their outcomes, in a particular area of research. It helps in interweaving outcomes and results from studies with diverse methodologies aimed at addressing some specific research problems.¹ The integrative review covers a broad range of issues from what is known, the quality of what is known and what must be known. This review was occasioned by the need to conduct an integrative review of intervention programmes for school health nurses on guiding adolescents in their decision making on reproductive health. School is the second most influential environment besides the family environment in the life of an adolescent. School health nurses are expected to perform an adaptive role² of guiding adolescents in their decision making about reproductive health in line with the National School Health Policy goals and objectives.³ However, this is an emerging topic hence the need to conduct a review of intervention programmes that had been developed for school health nurses in other areas of school practice in order to compare notes and distil the common elements in those programmes. Integrative review conducted toward addressing a new or emerging topic enables it to gain from the complete process of development and clarification of concepts and interweaving of literature to date. Integrative review is ingrained in the information gathering and synthesis phase of Thomas and Rothman's intervention model⁴ which entails uncovering what other researchers or individuals have done to solve similar problems, and it is about "not reinventing the wheel".⁵ The outcome of the activities in this phase constitute a series of functional elements that can be included in the design of an intervention programme. Findings from the analysis of semi-

structured interviews and focus group discussions that took place in phase one have indicated the need to design and develop a suitable intervention programme for school health nurses toward guiding adolescents in their decision-making about reproductive health, and there was a need to know the functional elements of the successful programmes in areas similar to the issue of focus in this study.

In conducting this integrative review, the main review questions were developed.

Review questions

What are the key elements identified in those programmes?

What were the outcomes of those programmes?

Cooper⁶ cautions that in formulating a research problem, the operational definitions should neither be too broadly nor too narrowly defined as this might lead to a glossing over of the details resulting in an inappropriate interpretation and consequently jeopardising the quality of research findings. In line with this thinking, the researcher defined intervention programme beyond specific intervention programmes for school health nurses aimed at assisting adolescents in their decision-making about reproductive health. The review covered other programmes designed for school health nurses in other aspects of adolescent health, which were aimed at assisting them in their role performance. The concept of school health nurse was extended beyond its descriptive mark, hence the inclusion of the public health nurse, which is a generic term for any nurse working toward improving the health of members of schools, communities and other places whose health concerns constitute public health.

Literature search strategies

This stage encompasses the collection of data from the reports of past important research that include different programmes that were developed for school health nurses. The search included survey studies, descriptive studies, quasi-experimental studies and studies using a mixed-method approach. This is the stage at which the target and accessible population was identified. In this review, the population was school health nurses. Cooper⁶ posits that the use of informal, primary and secondary channels and personal research findings are required to effect data collection. The researcher consulted with some experts in school nursing and only a few relevant articles were volunteered. Peer-reviewed journals were searched for relevant articles on the research problem. The ancestry approach, which entails the checking the reference lists of the articles consulted, was undertaken.⁶ Literature was mainly sourced from computerised databases. The computerised databases used included: CINAHL (Cumulative Index for Nursing and Allied Health Literature), ERIC (Educational Resources Information Center), PubMed, Google Scholar, and MEDLINE. The assistance of the Faculty librarian was sought in this regard. In developing the

search strategy, a set of keywords and descriptors were delineated and truncations were used appropriately so as to guide the search process.

Eligibility criteria

Articles published between the period 2000 and 2015 were included in the review. This range was purposively selected after a review of literature showed the scantiness of intervention programmes on enhancing school nurses' role performance. The review included studies conducted only in English. Intervention programmes that have been evaluated were mainly included in the review as these presented the researcher with the programme outcomes. The following eligibility criteria were further considered for the selection of articles: review articles, descriptive studies, triangulated studies, comparative studies, randomised controlled trials, and qualitative studies. The evaluation studies that were inconclusive regarding the outcomes, and study designs were excluded. The initial search yielded 1980 papers. A series of filtering took place based on the inclusion and exclusion criteria. There were three hundred and twenty articles based on title, twenty based on abstracts and thirteen based on full text. The number of remaining articles reviewed is eleven (Figure 1).

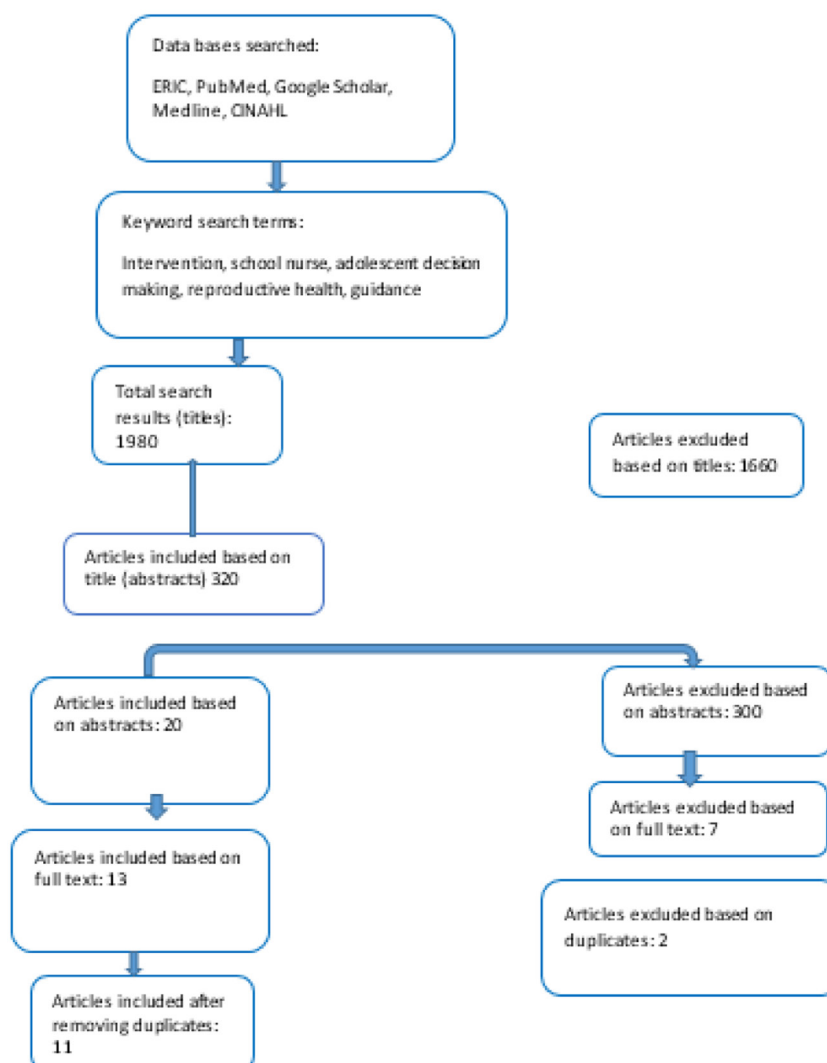


Figure 1 Flowchart: the screening process to select articles.

Evaluation of data

This is the stage at which data elements would be assessed for being considered for review. This can be determined before data collection (a priori) or assigning weight to the data elements in all the articles (a posteriori). Implicit in this decision is that less weight is assigned to the weak articles.⁷ The eleven remaining articles were evaluated based on the set criteria.

Evaluation criteria for research findings

The researchers employed an adaptation of the evidence scoring system developed by Beck (2001) and later modified by Park & Jones⁸ for evaluating research findings that qualified for a review.⁹ Each paper was rated based on its level of evidence using the following criteria:

Study design (experimental)=3points

Longitudinal=2 points

Descriptive and qualitative=1

Sample size (greater than 100=3 points; 50-100=2 points; and 0-less than 50=1 point)

The research papers were evaluated and scored by the researcher and a consultant for an inter-rater agreement. The scores are presented in the Table 1. If the level of closeness is high, it means the difference in their observation is minimal thereby ensuring the consistency of the data collection method. It is normally used for categorical data.¹⁰

Table 1 Inter rater agreement scores of research papers

Author	Study design	Rater 1	Rater 2	Sample size	Rater 1	Rater 2	100%
Schoessler and Leever (2000)	Descriptive	1	1	86	2	2	
Sebuliba & Vostimis ¹¹	Descriptive	1	1	150	3	3	
Gregg and Wozar ¹³	Descriptive	1	1	730	3	3	
Hootman & King ¹²	Descriptive	1	1	62	2	2	
Houghton ¹⁴	Descriptive	1	1	27	1	1	
Winkelstein et al. ¹⁵	Quasi experimental	3	3	46	1	1	
Chandler ¹⁶	Descriptive	1	1	764	3	3	
Campbell (2009)	Descriptive	1	1	20	1	1	
Pfister-Minogue and Salveson ¹⁷	Quasi-experimental	3	3	12	1	1	
Goto et al. ¹⁹	Quasi-experimental	3	3	26	1	1	
Kenefick et al. ¹⁸	Descriptive	1	1	730	3	3	

Total number of coded studies=11

Total number of coded studies in agreement=11

Rater 1-Rater 2=Difference score

Percentage agreement is the total number of 0 difference scores divided by the total number of all scores (sample size)

Total number of 0s in difference column=11

Total number of scores available=11

Percentage agreement is 11 divided by 11 multiplied by 100=100% or 1

From the above result, the inter-rater agreement is high. The inter-rater agreement was a highly critical aspect in the data evaluation process since it checks against researcher evaluating research in a subjective manner.⁶

Data extraction

A standard format was created which summarized the authors, the design, sample, aims, findings and limitations of the research information. This format helped in comparing the data toward the evolution of the sub-categories, categories and the theme (Table 2).

Data analysis

Data analysis entails the reduction of the separate data points obtained by the reviewer into a single unified statement about the problem.⁶ The analysis of the data extracted did not require any statistical input. Cooper⁷ argues that the integrative review that focuses on identification of intervention programmes would not involve the use of statistics in arriving at a conclusion. The standardized table format allowed the authors to do some comparison of the data as indicated above.

Table 2 Summary of characteristics of included studies

Author (year & country)	Intervention	Design	Sample	Aim	Finding	Limitation
Goto et al. ¹⁹	Health literacy programme	Quasi experimental	26 public health nurses	To change communication practices and norms among public health nurses To improve access to information for community residents	85-100% agreed to the usefulness and appropriateness of the workshop Application of new knowledge	Difficulty in sharing new skills with colleagues Challenges from changing work norms
Gregg and Wozar, ¹³ USA	Continuing education programme	Descriptive	16 school nurses	To assist school nurses in accessing health information needed for treatment of students and the school community	Increase in the use of websites- MEDLINE plus and HSLs health information	
Chandler, ¹⁶ USA	Online distance learning programme	Descriptive	764 public health workers	To assist public health of workers in meeting emergency situation demands	A high degree of participants' satisfaction, and increased level of understanding of the basic emergency preparedness	
Campbell, 2009 USA	Orientation programme	Descriptive	6 school nurses, 14 school nurse coordinators	To provide school nurses with the tools necessary to safely and effectively manage a school health program		Sample too small for survey studies. Modules on standard of practice and professional performance were lengthy
Pfiste-Minogue & Salveson, ¹⁷ USA	Training programme	Quasi-experimental design	12 public health nurses	To determine the effectiveness of a training programme To determine the extent of using behaviour change counselling as a feasible and useful change tool	The workshop was described as valuable	Behaviour change counselling coding tool was used instead of behaviour counselling tool
Kenefick et al., ¹⁸ USA	Online competency-based training programme	Descriptive	730 health professionals	To provide and ensure a competent workforce by strengthening and sustaining the capacity of the local health board to prepare for and respond to public health issues and emergencies	Modules effectively increased trainees' knowledge about specific content The trainees' perception of their ability to perform improved	
Houghton, ¹⁴ USA	Mentoring programme	Descriptive	27 school nurses	To assist school nurses on providing care or teaching educational staff about the care of students	The programme was found useful in the areas of role delineation, job satisfaction and knowledge increase in school nurses' adjustment to their role The programme led to skill enhancement	The sample size was too small
Hootman & King, ¹² USA	Educational programme	Descriptive	62 school nurses	To assist school nurses in the identification of potential mental health problems	It helped in improving their nursing skills They found the programme useful	It does not adequately address mental health assessment

Table Continued...

Author (year & country)	Intervention	Design	Sample	Aim	Finding	Limitation
Winkelstein et al, ¹⁵ USA	Educational programme	Quasi-experimental	46 school nurses	To assist rural school nurses in improving asthma management of children in school setting	The study increased asthma knowledge It increased self-efficacy among school nurses	Time was a constraint for school nurses' participation
Sebuliba & Vostanis, ¹¹ UK	Training programme	Descriptive	35 senior managers 85 health professionals	To acquire skills in the appropriate assessment or referral of some mental health cases by the primary care staff	It increased the awareness of mental health issues and their knowledge of staff role within child mental health services	Problem of reconciling different perspectives of the diverse health professionals that participated in the study
Schoessler & Leever, 2000 USA	Mentoring programme	Descriptive	86 school nurses	To provide skill-based mentoring for school nurses in the use of computers and enhancing their interaction skills		

Finding relating to the question, "What are the key elements of successful intervention programmes?"

From the review of intervention programmes that have been evaluated, the following key elements emerged. The importance of the evaluation was to enable the researcher know whether these programmes have been implemented, and how successful they were. The key elements indicated below constituted the core of those intervention programmes without which they would be meaningless. Knowledge of the subject matter and understanding of the content. Skills enhancement in the areas of school nursing, care delivery and guidance issues. Development of skills in interpersonal communication. Using role plays, small group discussions and lectures as a method of communicating the message to the beneficiaries. Resources such as facilitators, handbooks, guidelines and funds were utilised. Duration of instruction ranges from 2-3hrs per day.

Finding relating to sub-review question: "What were the outcomes of the intervention programmes?"

The review indicated the outcomes of the respective programmes. Eleven intervention programmes were reviewed out of which nine were evaluated for effectiveness while two of the studies were yet to be evaluated. The result of the multi-disciplinary training programme that was evaluated for skills in the appropriate assessment, management or referral of some mental health cases by primary care staff shows that the programme increased their awareness of mental health issues and their knowledge of staff roles within child health services.¹¹ The findings on programme evaluation by Hootman, et al.¹³ which aimed at assisting school nurses in the identification of potential mental health problems indicate that the programme helped in improving their nursing skills and they reported that they found the programme useful. The training programme that was developed and evaluated for assisting school nurses in accessing health information needed for treating students was productive as all participants reported that their knowledge and their access to the use of websites, Medline Plus, and HSLS's in sourcing health information improved.¹³ The programme evaluated how well school health nurses were assisted in their goal of providing care or teaching educational staff. It was indeed found to be

useful in the area of role delineation, job satisfaction, and knowledge increase in school nurses' adjustment to their role and brought about skills enhancement.¹⁴ In the educational programme developed for assisting rural school nurses toward improving asthma management of children in the school setting,¹⁵ there was an increase in asthma knowledge, and increased self-efficacy among nurses. The outcome of the programme for public health workers, including school nurses, toward assisting them in meeting the emergency situation demands shows that the programme resulted in a high degree of participant satisfaction and increased level of understanding of basic emergency preparedness.¹⁶ The programme for assisting public health nurses in determining the extent of using BCC as a feasible and useful tool was effective as the participants described the programme as valuable.¹⁷ The programme evaluated for effectiveness on ensuring a competent workforce by strengthening and sustaining the capacities of health professionals, including school nurses, to prepare for and respond to public health issues and emergencies was successful as the participants agree to the fact that modules that were taken effectively increased their knowledge about specific content and improved trainees perception of their ability to perform module specific learning objectives.¹⁸ Some of the limitations of the programmes include: difficulty in sharing their new skills with colleagues, challenges in changing work norms, and lengthy modules.

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Conflict of interest

The authors declare that there is no conflict of interest.

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