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Development, implementation, evaluation and validation of a haemophilia nurses' education program in South Africa

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Chapter 9

Results and Discussion (Research Question 4): Part Three

9.1 Introduction

This chapter presents the data of evaluations collected from the seven expert nurse educators. Research question four sought to determine whether the HNEP teaching program was suitable to teach nurses in developing countries about haemophilia diagnosis and management. The experts were asked to evaluate the contents of the HRF and complete a survey (Appendix L). They were also asked to complete a free response section where any more general strengths and weaknesses could be identified.

9.1.1 Research question four: Evaluation of the HNEP by expert nurse educators.

How robust is the purpose-driven haemophilia curriculum when subjected to expert evaluation?

To answer this question, the expert educators were each provided with a copy of the HRF. The HRF contains the HNEP curriculum. The contents of the HRF have been detailed elsewhere (Section 3.5).

9.2 Survey Responses

Expert nurse educator responses to the survey items are presented as frequencies and percentages and values generated using an Excel program (Table 9.1). The Table shows a column for "neither agree/disagree". Although there was no capacity on the actual survey for such a response, one of the respondents nevertheless chose a neutral option, placing a

mark between “agree and disagree”. As this action was not compliant with the instructions, the researcher chose to discard those three replies in any analysis.

It appears clear from Table 9.1 that the vast majority of experts indicated a positive response to the categories being evaluated. These data are presented in a different form by way of a stacked bar chart (Figure 9.1). This visual representation indicates a very positive response from the evaluators with regard to the categories assessed.

Table 9.8 Frequencies and Percentages from Survey Data.

n = 7 Experts	*Strongly Agree*		*Agree*		*Neither Agree/ Disagree*		*Disagree*		*Strongly Disagree*			
Questions	*f*	*%*	*f*	*%*	*f*	*%*	*f*	*%*	*f*	*%*	*Σ (f)*	*n=7 (%)*
Objectives appropriate[1]	*1*	*20*	*4*	*80*							*5*	*71.4*
Contents relevant	*5*	*71*	*2*	*29*							*7*	*100*
Evidence based	*1*	*17*	*4*	*66*			*1*	*17*			*6*	*85.7*
Purpose stated	*5*	*71*	*2*	*29*							*7*	*100*
Outcomes realistic, measurable, achievable	*1*	*17*	*3*	*50*			*2*	*33*			*6*	*85.7*
Logical presentation	*4*	*57*	*3*	*43*							*7*	*100*
Appropriate to RNs in SA	*1*	*25*	*1*	*25*			*2*	*50*			*4*	*57.1*
Teaching strategies actively engage the learner	*1*	*14*	*2*	*29*	*1*	*14*	*3*	*43*			*7*	*100*
Summative evaluation	*2*	*29*	*4*	*57*	*1*	*14*					*7*	*100*
Power Points clear, uncluttered, readable from 10m	*1*	*14*	*5*	*72*			*1*	*14*			*7*	*100*
Package user-friendly	*3*	*43*	*3*	*43*	*1*	*14*					*7*	*100*
Handouts are a valuable resource	*4*	*57*	*3*	*43*							*7*	*100*
File learning/teaching resource	*5*	*71*	*2*	*29*							*7*	*100*

Not all experts chose to answer every question so the sum of the frequencies for some questions does not always add up to seven. This is reflected in the last two columns of the Table.

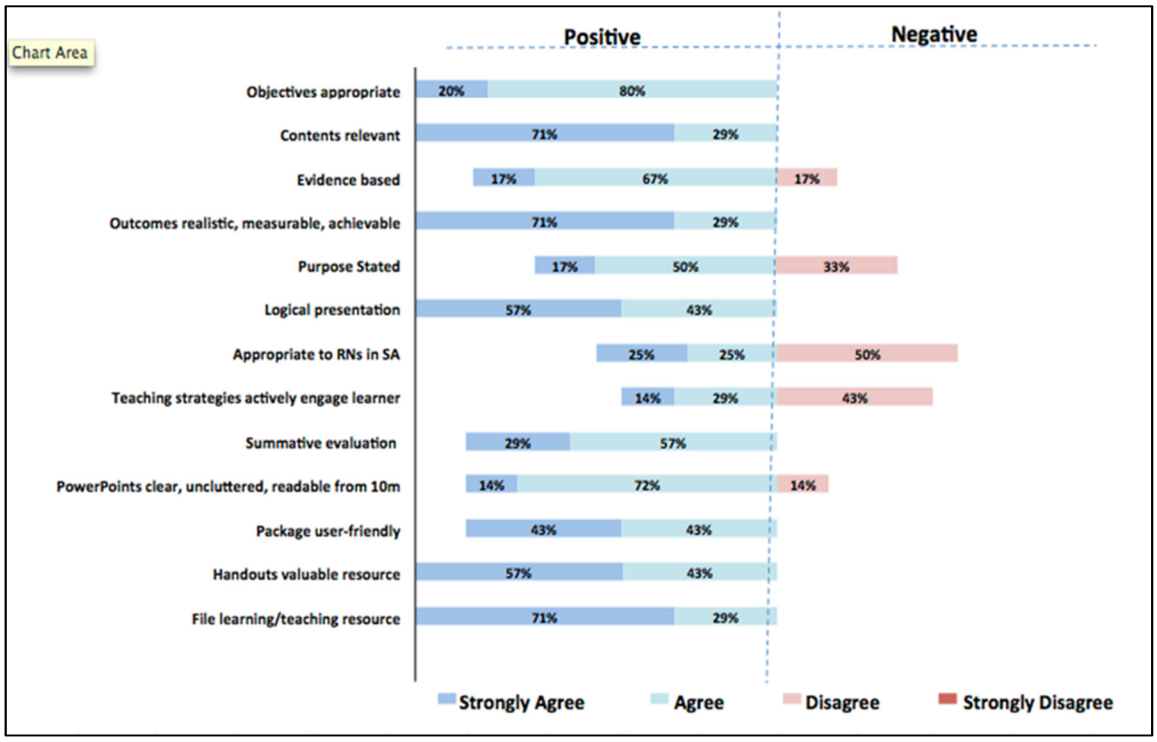

Figure 9.11 Expert evaluators' assessment of the HNEP criteria under investigation.

The greatest spread of disagreement centred on "Teaching strategies actively engage the learner". Such an outcome may have occurred as a result of the experts not being familiar with the strategies suitable for learning in the present context, or there may have been variability in interpretation regarding the category. Nevertheless, with three of seven experts disagreeing with the statement, this aspect of the HNEP will have to receive further attention prior to the next course being offered.

A further observation is that "Outcomes realistic, measurable and achievable" and "Appropriate to RNs in SA" do not rate as highly as the other categories. Again, this may have resulted from unfamiliarity with the SA context and the capabilities of the participants. Regardless, these categories will also have to be subjected to further scrutiny prior to the course being offered again. It is significant to note that "handouts are a valuable resource" scored highly. This is pleasing, as during focus group sessions, several of the nurses indicated that they subsequently copied handouts to distribute to PWH.

Further interpretation of these results is possible. The open-ended questions throw greater light on the results found in Table 9.1.

9.3 Open Ended Question Responses (n = 8)

In addition to the survey the expert nurse educators were asked to respond to eight open-ended questions (Appendix L). The first three questions asked experts to provide an overview of the HRF. The next four questions were related to the content of the HRF; and the final question asked about the appropriateness of the pedagogy for the present cohort. The questions are now addressed separately. Coding used for expert identification has been presented previously in Table 5.5.

9.3.1 HRF overview questions (1-3).

a) *The topics within the teaching package represent the breadth of the information required to understand haemophilia and how to care for these patients. In what ways do you think this has been accomplished?*

All respondents agreed that the breadth of information required had been achieved and the information followed a logical sequence building from basic to more complex material. JT-R stated that adult learning principles had been observed and MH noted that there was sufficient information to permit the RNs to provide "safe and effective care". MB acknowledged that teaching the subject (haemophilia) was approached from a variety of perspectives focussing on information relevant to nurses. One of the African experts, LK, remarked that the HRF was well-summarised within the overview followed by the pathophysiological, diagnosis management and complications of haemophilia, which were provided in a clear way. SA expressed the opinion that the HRF was very comprehensive package and AB described it as "robust and comprehensive".

AB noted that the Table of Contents relates a strong biological approach which could be adjusted to include inquiry-based learning using scenarios and case studies to encourage student centred learning. A further comment about the Table of Contents identified that the language used does not align with the content of the lectures which "may confuse the learner". AB further identified that the role of the nurse in haemophilia care should be placed at the commencement of the course thus reflecting the importance of the nurse in the care of PWH.

While one expert MH approved the inclusion of information about HIV, he questioned why hepatitis B was not included. Three experts, MH, MB and LK commented that they would liked to have seen more information about psycho-social support for PWH, and MH suggested that end-of-life issues could be addressed. One expert educator, SA, was critical of the amount of content the participants were required to learn over the four and one half days program, commenting that the participants were inundated with a great amount of material in the first three days. She conceded though that the final two days concentrated more on applied information rather than introducing more new information.

b) *Do you believe that the information provided complies with evidence-based requirements and if so, how?*

Four experts, BS, LK, MH and MB acknowledged that the curriculum was based on international standards, guidelines, protocols and current practice. However, JT-R noted that it was difficult to know about current evidence because the referencing was inconsistent and some of the existing references were more than five years old. Three experts, MB, SA and AB commented that the references were not always cited and MB pointed out that the Power Point presentations did not display references. One expert, AB, commented that there appeared to be no evidence-based approach to the content of the HRF, noting that

protocols relating to best practice were not apparent. Furthermore, AB noted that web-based links, protocols and best practice references should be provided, regardless of availability of technology to access these references and that instruction of research methods and evidence-based methodology be included in the curriculum.

Another expert, SA, while concurring with the above comments, suggested that if references were not available, that the lecturers could be satisfied with "eminence-based contributions". MH made three suggestions that may improve the HRF as a learning tool and resource by proposing that: Firstly, a list of references could be included; secondly, a list of indicative reading may be helpful but also acknowledged that this may be difficult to access in the setting and; thirdly, that key material could be made available as a resource pack.

c) *Anticipated learning outcomes are stated at the beginning of the program. How do these outcomes reflect the content of the package?*

BS, LK and SA agreed that the stated outcomes were achieved and JT-R noted that the outcomes were clear and easy to understand. JT-R further commented that the individual lesson outcomes may be more difficult to achieve, as she felt 30 to 60 minutes was too short to allow in-depth discussions and explanations for complex topics. MH strongly agreed that outcome one, which addressed the physiology of haemophilia and the consequences if not treated; outcome four, the range of treatment modalities; and outcome six, the role of nurse as educator for PWH and their families, were strongly reflected in the program. However, this expert felt that the psychological, economic, ethical and social implications of bleeding disorders, represented in outcome two, and the range of therapeutic skills and nursing interventions for holistic care of PWH, family and friends, as embodied in outcome three, were not achieved. The suggestion was made that greater emphasis on the

theoretical aspect of living with haemophilia, including end-of-life care, could have met these outcomes. MH also suggested that outcome five, which addressed the research supporting best practice in haemophilia care, was not fully reflected, nor was there space made for analysis by students.

MB commented that the theoretical outcomes were achieved but therapeutical skills less so. This expert proposed that the summative examination could have been more "hands-on" using, for example, a Modified Objective Structured Clinical Examination (OSCE). SA agreed that the outcomes and content were in accord but added the following comment:

> Outcomes should have included higher level outcomes encouraging nurses to use the info they have gained in terms of application, problem-solving & evaluation rather than pushing in more lower-level knowledge (SA).

9.3.2 HRF content-based questions (4-7).

d) *Please comment on whether the content is pitched at an appropriate level for the educational status of RNs in developing countries.*

BS, MB and LK believed that the HRF was pitched at a suitable level for RNs in developing countries. In contrast, MB was concerned that the more complicated topics such as coagulation may need simpler models and more visual aids to help explain the complexities of the subject. Moreover, MH proposed there was a great deal of didactic content in the HNEP and suggested that a wider variety of teaching methods based on activities would promote deeper learning. Further comment from this expert was that as the content required a high level of theoretical and scientific knowledge of anatomy, physiology, pathology and pharmacology, that it may be pitched at a level above the

capabilities of RNs in developing countries. This opinion was supported by expert SA, who stated:

> I have concerns based on personal experience in SA, that the RN's lack sufficient background in science to understand some of the more complex physiology (SA).

Although not familiar with the educational status of RNs in SA, JT-R cautioned about generalising across developing countries and cultures. She believed that educators needed to be aware that there are differences within the nursing profession not only from country to country but also within a country, therefore it was important to avoid making assumptions about knowledge levels when working cross-culturally. She further suggested that although the language used in the HNEP is probably acceptable for RNs in SA, this may not be so in a different context.

AB pointed out that the national principles and qualification structure and the SA competency standards for a RN should govern the learning level for the HNEP, thus determining the education requirement of RNs entering the course and the suitability of the course content. Therefore, it was suggested, screening to ensure that the RNs have adequate educational levels should be carried out prior to the candidate undertaking the HNEP. AB asked further questions:

- For how long does the qualification remain valid?
- What responsibilities does the course provider have to the professional body?
- What is the length of time a course runs for before a formal review is undertaken?
- Is there an annual review processes and reporting requirement? If so, to whom?

e) *The HNEP has introduced new terminology. Do you perceive that this would be an issue for these nurses and if so, in what way?*

Five experts, BS, MB, LK, SA and AB agreed that the introduction of new terminology was appropriate so long as it was explained and discussed during the delivery of the HNEP. BS suggested that as the haemophilia terminology was used over the five days of instruction that it was presented in a supportive environment which would allow the participants to become familiar with its use. Another expert, AB concurred, saying that if the terminology was widely used in haemophilia that the RNs should be exposed to it in a supportive environment and when there was an opportunity, such as during the HNEP. Two experts, SA and LK remarked that new terminology was not an issue "….because at the level of an RN they have to comprehend these new terminologies" (LK).

SA and JT-R pointed out that the new terminology may only be a problem when the RN returned to work and none of her colleagues were using it. One expert, MH did not identify any new terminology. AB suggested that new terminology and other pertinent material such as acronyms be provided in a glossary, thus guaranteeing consistency in haemophilia nursing practice.

f) *The program is designed to be progressive in that foundational learning is presented first, followed by more complex topics. Do you perceive this has been successful and if so, how?*

All of the experts agreed that the HNEP had begun with foundational learning building to more complex topics. One expert, SA, believed that more time should be allowed for the participants to assimilate the new knowledge before proceeding to the next topic. This expert was concerned about the lack of physiology in the program and suggested a pre-course could address this shortcoming if there was insufficient time to include it in the

four and one half days of instruction. The following quote from one expert (MH) offers an interesting suggestion:

> Could there have been more formative opportunities for checking the participant's learning before moving into the more complex material? There may have been space for quizzes and other strategies to enable consolidation of learning and an opportunity to assess the student's learning needs, with room for flexibility within the program so as to adapt the teaching strategy and content accordingly (MH).

AB agreed that foundational learning was followed by more complex topics but pointed out that the lecture on the role of the nurse in haemophilia care could have been introduced much earlier in the course.

g) *How does or does not the resource manual provide sufficient information to allow the learner to reach learning goals?*

Two experts, MH and SA, commented that the HRF was comprehensive, aptly supported by notes, and easy to navigate. Expert BS found that the information was presented in a logical fashion, allowing learning goals to be met. MH suggested that the file was a good resource and MB commented that the teaching plans standardised the key elements of the HNEP which could then be added to each Power Point. SA stated that as the HRF was predominantly word-based, some participants may have a problem with the written content, particularly in the context of below-standard literacy levels and English being the second language for the majority of the learners. LK and AB would have preferred to have more practice-based activities added.

However, JT-R found that the format of the HRF did not "spark interest" with the layout difficult to read. She further commented that the HRF appears to be a series of

lectures put together with no consistency or framework, which needs to be addressed if the HRF is to be promoted as a learning tool. JT-R suggested that all Power Point presentations should be accompanied by written notes. AB added that it was essential to include web addresses, electronic and hard-copy references to clinical guidelines and protocols to provide a wide-ranging package of information resources. AB also commented that there was no evidence in the resource package that indicated that there was a holistic approach to patient and family care.

Two experts, MB and JT-R suggested that a pre-test would indicate the participants' level of understanding about haemophilia prior to the commencement of the program. MB suggested that the participants could also be asked about their expectations of the program

9.3.3 HRF pedagogy-based question (8).

h) *Can you comment on the appropriateness of the teaching strategies and tools within this package. For example, are they pitched to maintain interest?*

Three experts, JT-R, MH and SA, commented on the predominantly didactic approach of the HNEP pointing out that in their experience, this does not promote critical thinking, complex problem-solving or abstract thinking. Five experts, JT-R, MH, LK, AB and SA, suggested that more activity-based learning would be beneficial although MB remarked that while group activities would have been beneficial, "cultural factors may inhibit student-led approaches". Two experts, JT-R and SA noted that there was a great deal of information presented which in the context of the time allocated for the HNEP could be overwhelming. SA commented that too much foundational information at the beginning of the program risked losing the participants' interest and LK wanted more strategies implemented to engage the student and maintain interest, although did not make any suggestions regarding how this could be achieved.

While two experts, JT-R and SA commented on the large number of Power Point presentations, they also noted that some of them were "busy" and overcrowded, thus providing limited value. In contrast, MB found the Power Points well-constructed and interesting. LK noted that the teaching strategies and tools used were appropriate and two experts, BS and MB, agreed that interest is maintained due to the variety teaching methods. MH disagreed, noting that a "greater variety of teaching strategies" could have been employed.

JT-R commented that the use of scenario-based learning promotes understanding. AB agreed that the use of scenarios and "shared story-telling" was important in learning settings and that "simulated erudition" could be considered. Another suggestion was the concept of peer mentors so the participants could support each other once they returned to the workplace.

AB suggested that "future courses should undergo self-assessment as part of the evaluation process". This could be achieved it was suggested, by increased governance on the part of the organisers which could benefit the HNEP by introducing the following structures:

- application of current quality assurance processes as required by the peak haemophilia body;
- monitoring and review of processes and the implementation of quality improvement;
- placing a template at the beginning of the file showing program structure, course outcomes, method of instruction and hours of completion;
- itemising the tools used for course review, such as evaluation, teacher assessment, course needs analysis and how these influence the ongoing development of the course;
- involving course partners to ensure the course is current and to decide on national principles and anticipated results;

- supervising the qualification and education experience of staff delivering the course, thus contributing to information about course quality.

9.4 Chapter summary

The evaluation of the curriculum and content of the haemophilia learning package by expert nurses revealed that generally the teaching was satisfactory although some individuals had reservations about evidence-based information, including too few active learning opportunities and the level of scientific learning required by the RNs. The next chapter presents a discussion of the findings in relation to the previously established theoretical framework.