

Barriers And Facilitators Relating To Thai Clinical Nurses Use Of Qualitative Software Tools: Informing Hospital Policy

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Abstract

Background This paper discusses the research approaches and experiences of Thai clinical nurses from a purposefully selected group of Thai private hospitals in Bangkok. A public search for research conducted by Thai clinical nurses revealed that little is written about their experiences or their engagement and testing of qualitative software tools related to clinically identified problems or issues. **Methods** The paper utilises a qualitative approach employing a focus group drawn from 4 Thai private hospitals creating a concentrated facet of context and flexibility. This paper addresses issues relating to the conduct of qualitative research by clinical nurses in a small number of private hospitals in Bangkok. **Results** The developed research questions were mapped to the generated 8 major themes, and supported by 21 sub-themes. The qualitative outcomes presented, highlight the various experiences, perspectives, opportunities and challenges that Thai clinical nurses face. The outcomes indicate that there are 8 barriers and 13 facilitators and that these together illustrate the diversity of research practice opinion of Thai clinical nurses, and underpins the managerial task to reduce the barriers impact and enhance the facilitating factors for Thai clinical nurses. **Conclusions** The impact of this research suggests that hospital management have to address the need to build a more equitable resource base to streamline the available research provision. This would provide greater support for clinical nurses using qualitative methods that lead to clinical research outcomes when engaging in evidence-based qualitative research.

BACKGROUND

Within the health services in Thailand there appears to be a growing recognition that qualitative research outcomes has increased in accordance with directives from the Thai government and that qualitative research outcomes are related to increased funding possibilities since 1999 (Mayhew et al., 2008). Clinical nursing professionals in Thai private hospitals account for 14% of the overall nursing population, whilst funding and opportunities for research impact on more than 29% of these (MoPH, 2007). Further, one of the main eight pillars supporting new structural health developments in Thailand – research - has taken on a particularly important role in building health-related capacities for all health staff (Health Policy in Thailand, 2009). A public search for research conducted by Thai clinical nurses research revealed that little is written about their experiences or their engagement in using qualitative software tools in evidence-based solutions to clinically identified problems or issues. However, research targeting

evidence-based solutions for health matters has generally increased elsewhere using appropriate methodologies where qualitative methods have become popular (McLafferty and Farley, 2006); which helps composite complex and sensitive issues (Holstein and Gubrium, 2003); and that the need to integrate theory and practice through research has intensified (Conway and McMillan, 2005). Unfortunately, this still means that Thai nursing research appears to be underexposed to possible research developments and testing of evidence-based outcomes (based on DoH - UK, 2000). Thus, the new challenge for Thai nursing staff is to use research methodologies that can clearly explicate the essential nature, meanings and components of nursing so that nurse clinicians can use this knowledge in a deliberate and meaningful way (Leininger, 1987).

ISSUES IN QUALITATIVE RESEARCH DATA ANALYSIS

Qualitative research is designed to provide rich, detailed data of a focused contextualised phenomenon or events impacting

on personal experiences and perceptions arising from the encounter. In this respect, targeted populations remain small and reflect individuals who have an intimate knowledge of the situation or event and can communicate appropriately as to their specific responses and conditional understanding. However, the process of qualitative data development and analysis is a difficult skill (Broom, 2005) for qualitative researchers in health related areas to acquire whilst attempting to engage with and enhance methodological rigour through the application and use of technological tools (Meyrick, 2006). The role of qualitative software tools - QSTs (which for the purposes of this paper includes the term - Computer assisted qualitative data analysis software CAQDAS) in health research has become more important as the application and use of qualitative research methods gain ever greater popularity (Fielding & Lee, 2002) whilst the type, diversity, cost, availability and complexity (Ulin, Robinson & Tolley, 2005) of such software tools have increased. However, QSTs are still not accepted as a mainstream qualitative research tool in health studies, as a literary debate persists between the usefulness of utilising QSTs and the philosophical stance of the analyst (Catterall & Maclaran, 1998), as well as age, computer literacy, and experience of the qualitative researcher (Mangabeira et al., 2004). Health research activities utilising computer applications to handle unstructured, qualitative related data has produced a huge variety of QSTs numbering at around 50, such as Atlas-Ti, and NVivo – now at version 9. In making full use of QSTs appropriate research questions need to be developed that lead to a clearly defined methodology and data analytic strategy before data analysis begins through the rigorous application of any QSTs. QST packages are developed to utilise research-related functions such as word searching, data storage and retrieval, qualitative data coding, memoing, model mapping, initial concept building, hierarchical/horizontal theme building, and reflexive report writing (based on Peace, 2000; and QSR International, 2010). Further, QST packages are considered relatively fast in the processing capability of large data sets (reflecting media such as documents, video, photographs and audio - Morse & Richards, 2002). These can often reflect the versatility in qualitative research approaches to working with data more interactively (Kearns, 2000) for a more meaningful, contextually focused investigation (Bassett, 2004), compared with the traditional qualitative analysis using manual card and paper techniques, whilst leaving a visible and recoverable audit trail (St. John & Johnson, 2000) to support an appropriate engagement in

methodological rigour needs (Dey, 1993).

As more and more health researchers report using QSTs, their usage appears to have revolutionized the way methodology and analytical composition is carried out. However, the decision whether or not to use QSTs is based on the individual researcher's requirements, as well as the researcher's skills and experience with software and technology (Webb, 1999). Nevertheless, using such packages do not automatically apply/create qualitative analysis with/on the generated data, nor do they, by their very use, increase the robustness or rigour of the qualitative research method employed.

When choosing a QST package the researcher's style of working with the available data is paramount and the package needs to be flexible enough to allow the researcher to interrogate the generated data and develop the adopted analysis in a natural way. It is the type of qualitative analysis associated with the requirements of the research questions that dictates which package is more suitable to use (Williams, Mason & Renold, 2004). Consequently, the choice of package can dictate the type of analysis to be performed and care therefore needs to be taken in the final choice of the QSTs package. In some circumstances more than one may be used, as the data analysis and subsequent literature engagement may force different approaches that lead to different software package treatments. In essence, for many qualitative health researchers one package could be all that is needed. In other health research circumstances, multi-package engagement would need to be utilised, as the specific and ongoing research orientation demands different data treatments that can only be done through multi-package use. Unfortunately, many researchers claim they have used these types of software packages for the data analysis but fail to show specifically how their structural/theoretical propositions have been arrived at as a direct result of an engagement in the software and any corresponding structural, methodological and epistemologically based analysis. For example ...Currently it appears to be very popular in QDA research substantive and methodological papers to label QDA as GT for the rhetorical legitimating... (Glaser, 2004). This suggests that some qualitative researchers just glaze over an important aspect of qualitative methodology engagement by not reporting in a way that helps readers see the rigour through discernible audit-trails.

The above issues consequently raise the following questions:

What are the issues that clinical nurses consider when using QDA in qualitative research?

How do clinical nurses choose appropriate software for use in qualitative research?

What benefits and advantages do clinical nurses see in using appropriate software for use in qualitative research?

These three questions are posited in an attempt to illuminate the issues surrounding clinical nursing roles, experiences and influences.

METHODS

To consider more implicitly the three questions raised, this empirical research paper utilised a qualitative approach (Walsh, White, and Young, 2008) to understand the perceptions and experiences of clinical nurse experiences in Thai private hospitals using a focus group methodology largely creating a purposeful element of context and flexibility (Cassell & Symon, 2004). Given the lack of purposeful research in this area, this methodology is seen as appropriate for generating contextual data underpinning the creation of richer theory development (Cayla and Eckhardt, 2007).

Qualitative research using focus groups have been carried out by many researchers (e.g. Monolescu and Schifter, 1999); O'Connor and Madge, 2003; McPherson and Nunes, 2003). Unfortunately ...most of our knowledge about focus groups comes from personal experience rather than systematic investigation (Krueger, 1994), and this coupled with an apparent absence of empirical research directed at focus groups (Heary and Hennessy, 2002; and Pincott and Branthwaite, 2000) in relation to methodology considerations (Chen and Hinton, 1999) concerning qualitative research outcomes, the need for such research is apparent and imperative.

Such methods may radically help develop data that would otherwise be lost or be considered unavailable. As such, focus group research is considered a ...unique and comprehensive form of participative research (McPherson and Nunes, 2006) which may be further enhanced by using a co-operative environment that is data rich and stimulating for respondents (Fontana and Frey, 1994). Open-ended questions used in focus group research produces a larger range of diverse responses (Schuman et al., 1986) and are therefore particularly useful to use in this exploratory study.

The population for this study were private hospital primary care clinical nurses in four (4) private hospitals in Bangkok (after Carman, 1990). The criteria of theoretical purpose and relevance (Glaser & Strauss, 1967) were applied to the targeted population. After general but intensive discussions with each of the four hospital management (where ethical approval was sought and gained), the favoured target frame for each hospital was the general medicine department and therefore twelve (12) clinical nurses (GM) as key informants (three for each hospital) who used or were using qualitative research methods were thus determined as the resultant sample frame (after Harrel and Fors, 1992). The focus group was conducted in English and took approximately one and half hours. The focus group was video and audio-recorded after gaining written explicit permission, and were later transcribed verbatim using the NVivo qualitative software package. To increase the reliability of the data, the actual transcription was returned to each respondent via e-mail for correction, further explanation, addition or deletion and return, which followed the process of validated referral (Reeves and Harper, 1981). Whole-process validity was achieved as the respondents were considered health professionals (Tull & Hawkins, 1990) and knowledgeable of the context and content associated with the research questions presented earlier in this paper.

The focus group was initially manually coded using Copernic desktop according to sub-themes that 'surfaced' from the focus group dialogue using a form of open-coding which is derived from Glaser (1992a) and Straus and Corbin (1998). This treatment was also reinforced, strengthened and extended through the use of thematic analysis conducted using the NVivo qualitative software package (Walsh et al., 2008). In this way, no portion of the interview dialogue was left uncoded and the overall outcome represented the shared respondents views and perspectives. Various themes were sensed from the use of NVivo package, as well as from the manual coding. This triangulistic form of interrogation was an attempt to increase the validity of the choice of both key themes and sub-themes through a triangulation process. NVivo was then further used to explore these sub-themes by helping to pull together each of these sub-themes (Harwood and Garry, 2003). In this way, it was possible to capture each respondent's comments on each supported sub-theme and place them together for further consideration and analysis. Categories and properties are abstractions in the sense that they represent elements and experiences of more than one respondent's story. This aspect was utilised further by asking

respondents, through a second e-mail, to attempt to place the identified sub-themes in terms of whether they felt that either was a barrier or facilitator – thus including the respondents as continuing active agents in the collection and consequent analysis of data.

PRESENTATION OF FRAMEWORK OUTCOMES

The research questions were mapped to the generated eight (8) major themes, as indicated in Table 1 – Main and Sub-Themes. The sub-themes (21) are further discussed below. The outcomes of this research inquiry in terms of the most discussed sub-themes and the total number of references for the sub-themes are also indicated in Table 1, as is the determination of whether each identified sub-theme addresses a barrier or is an facilitation opportunity. Further, Table 2 indicates the numbers of extractions that help with determining the research outcome.

RESULTS

The style adopted for reporting and illustrating the data is influenced by Gonzalez, (2008) and Daniels et al. (2007) and is formulated below, focusing on the raised research questions and the resultant main themes.

Figure 1

Table 1 - Main and Sub-Themes

<i>Research Questions</i>	<i>Main Themes</i>	<i>Sub-Themes</i>	<i>No. Refs</i>	<i>B/I</i>
What are the issues that clinical nurses consider when using QDA in qualitative research?	Personal	Publishing Need	14	F
		Time for Research	19	B
	Research Support	Research Guidance	23	B
		Collaboration	16	F
	Software	Coding Issues	25	B
		Helps focus the methodology	14	F
How do clinical nurses choose appropriate software for use in qualitative research?		Ease of Software Use	19	B
		Data Analysis	15	B
		Data Preparation	18	B
		Training/Support	21	B
	Choice	External Guidance	22	F
		Cost	13	B
What benefits and advantages do clinical nurses see in using appropriate software for use in qualitative research?	Personal	Own experience	9	F
		Research groups suggestions	11	F
	Software Features	Features/Flexibility of Software	17	F
	Benefits	Enhance Research Validity	17	F
		Ease of Data Preparation	12	F
		Triangulation	15	F
	Advantages	Speed	18	F
		Presentation of results	21	F
		Transparency of audit trail	16	F

B – Barriers; F– Facilitator

Figure 2

Table 2 - Respondent illustrations/extractions

<i>Research Question</i>	<i>Major Themes</i>	<i>No. CN</i>
1	Personal	2, 4, 6, 9, 11, 12
	Research Support	1, 8, 10
	Software	2, 3, 4, 5, 7, 9, 11, 12
2	Choice	2, 4, 5, 8, 11
	Personal	3, 8, 9
	Software Features	2, 4, 7, 9, 11, 12
3	Benefits	1, 3, 4, 5, 6, 7, 10, 12
	Advantages	4, 6, 9, 11

What are the issues that clinical nurse managers consider when using QDA in qualitative research?

MAIN THEME – PERSONAL

Clinical nurses have conducted qualitative research and find that as one respondent (CN11) indicated ...we carry out research because we want to and to ensure that our practices lead to useful results clinically... Another respondent (CN4) intimated ...yes, that's right, any research we do has to be for the benefit of our patients... Clearly, personal motivation in conducting qualitative research was targeted to how well the research could, as another respondent stated ...help reduce waste, streamline our processes and make sure we were using the most upto date practices...

However, it was indicated that there was little time for research, so many nurses worked at home too. This notion was supported by one respondent (CN2) as ...there's no time... there's no time at all in the hospital, so we have to do most of the reporting at home. This isn't good for family life... Another respondent (CN6) suggested that ...I find it impacting on my free time. It's not that I don't want to do any at home, it's just a little difficult because I don't have a computer there, so I have to write it down... Another respondent (CN12) indicated that ...it is difficult to take research home, we all know that... ...and we don't get paid extra either...

An issue that was raised by many was the notion of time available for doing research and thus was suggested by one respondent (CN9) as ...even a little bit of research takes time. We try our best, but it takes so long and then trying to get it published takes even longer... Another respondent (CN11) indicated that ...we are not given much time to do research, and when we do it, it almost takes like forever... This suggests linkages between of length of time taken and applying the corresponding results that may be difficult to track and plan for nurses.

Another major issue that was raised reflected specific coding issues when conducting QDA analysis. An example, raised by one respondent (CN11) suggested that ...we can develop the project and the methods, do the interviewing, but the coding – it's so complicated, so difficult – even under supervision – which isn't available most of the time...

Another respondent (CN4) indicated that ...you really have to be clever to coding. Even worse, you have to know when to stop. It's so difficult...

MAIN THEME – RESEARCH SUPPORT

As far as support for doing research, one respondent (CN8) indicated that ...there isn't much of that... supported by another respondent (CN1) ...we often get told what to do in terms of the research subject, but there's never any help beyond the initial subject meeting...

In terms of collaboration, many nurses appear to prefer to do research in groups. As one respondent (CN10) indicated ...we like to get together, it's more social that way and we can reduce the stress of the research project...

MAIN THEME – SOFTWARE

Coding issues were raised by some respondents because they were considered difficult and messy and that the learning curve for using the software appeared to be fairly steep for some. On this one respondent (CN3) suggested ...coding, oh coding. That is very difficult. We spend a lot of time trying work through coding... Another respondent (CN7) suggested that ...coding can be easy, but to get it right you have to think and then think some more... This latter issue was further raised by another respondent (CN12) who thought that ...it helps us focus on the qualitative methods. It helps us see what the data means... Another respondent (CN9) indicated that the ...if the software is easy to use – you just press a button and the codes come right out... which for some clinical nurses was all there was to coding, analysis and software use. As one respondent (CN2) suggested ...yes, we code and analyse, but it isn't easy. Sometimes the data isn't in the right format... Another respondent (CN11) suggested that ...we do it together, and this way we try not to miss anything, but we always needs more support than the hospital gives us. We always needs more...

A feature that received wide consideration by the respondents was software training. Most respondents indicated that training was a necessity, as one respondent (CN5) indicated ...we need someone to help us now. We definitely, without a shadow of a doubt need training...

Another respondent (CN4) suggested that ...if we are 'forced' to do research, then we must get the training to make it worthwhile... However, it would appear that there was insufficient training given, as one respondent (CN12) indicated ...oh, it's not enough. I mean, we get some and then you're on our own. Qualitative [research] is complicated, so we should have them available when we need them too...

How do clinical nurses choose appropriate software for use in qualitative research?

MAIN THEME – CHOICE

Aspects that appear to influence the qualitative researcher's choice of software include whether the project is individually or team based; the theoretical qualitative approach to data analysis; the defined methodology characterised in a way that helps with the application of appropriate use of the software package (Fielding & Lee, 1998). When asked how nurses choose software the answers were characterised as complex, as well in-depth. For example, one respondent (CN8) indicated that ...Most of our research projects are now qualitative, so using software is a must... which suggested that it was critical to them to get the right software for their research projects. Most of the respondents appeared to leave the decision to the ICT department, which begs the question as to the veracity and efficacy of the link between the research method and the software functionality. As one respondent (CN11) emphasised ...I'm not too experienced with qualitative software – computing is not my area. Someone else must take those decisions, like the computer department... Other respondents showed a complete lack of knowledge of QDA software, as indicated by one respondent (CN5) ...I remember being shown something way back. But no I don't really know any software at all... Another respondent (CN2) suggested that ...a few of us know about software, but I haven't really tried them – no not really...

Cost of software was raised as an appreciable barrier. As one respondent (CN11) indicated ...because we don't do much research – especially at the moment – buying software is very difficult. I mean we have to convince upper management to give us extra money, but they won't... ...I know that... Another respondent (CN4) suggested that ...when you have to balance the costs of another nurse against paying for foreign software... ...it just isn't right...

MAIN THEME – PERSONAL

As far as personal experience is concerned, many respondents had little or no direct experience in working with contemporary qualitative software. As one respondent (CN9) suggested ...we don't use much software at the moment. It's just coming in, but for research???... On more positive considerations, one respondent (CN3) indicated that ...I would like to be able to use software, as I think it will help... ...I think it would help enormously... This view is mirrored by a number of respondents and a more focused response was received by one respondent (CN8) who indicated that ...the software must be pertinent to our needs – not too complex or simple. It must help us categorise and concentrate on coding – so that's what I look for in qualitative software...

MAIN THEME – SOFTWARE FEATURES

A major issue that was brought out, as depicted by one respondent (CN4) was the need for software to be ...simple to use and comprehensive. This was supported by another respondent (CN11) who stated ...we need software that can analyse our documents securely. But my biggest worry is that the data becomes a lot and that means difficulty in analysing it... This suggested that clinical nurse managers were aware of the functional data analysis needs, and that the concerns reflected the management of the research project. However, as indicated by one respondent (CN2) the perceived potential of software may stretch the outcomes of the research data analysis ...I think it would be OK if the software was simple to use and gave us the result we need...

There was an overwhelming understanding that software was needed, and as one respondent (CN9) stated ... I should imagine that I would want the software to do most of the work – but getting all the transcribing into the computer and assessing that... oh, it just gives me a headache... This signified that data preparation and transcription were considered difficult characteristics of qualitative research rigour to employ effectively.

Another issue that was raised related to support. As one respondent (CN12) indicated ...we know we need to do qualitative research but it is fairly difficult especially when we have no one who can help us – y'know – to guide us through the process. So whatever software we try it will be difficult... Another respondent (CN7) on this point speculated ...If I was to do some research now I would want the software to be flexible and easy, be able to analyse

documents of all sorts. Oh...yes, I would also want plenty of support...

What benefits and advantages do clinical nurses see in using appropriate software for use in qualitative research?

MAIN THEME – BENEFITS

On the issue of enhancing research, one respondent (CN3) suggested that ...oh, yes, it helps you do research, no question about that... Another respondent (CN1) suggested that ...once you get used to the software it can help with all sorts of things, like data analysis...

An issue that was raised by respondents reflected the ease of preparation of media prior to using QDA. As one respondent (CN5) suggested that ...now it only takes a few minutes to upload to the programme, and that's it... ...no more waiting, no more changing, it's much faster now... In terms of why this was important one respondent (CN12) indicated that ...yes, if we can get the data in fast, then we can focus on the outcomes more quickly... Another respondent (CN7) indicated that ...I like doing some of the qualitative research. Many others here only look at the quantitative side... ...it's not easier but there is a sense of accomplishment after the data analysis...

Another issue that was raised was that of triangulation. As one respondent (CN10) indicated ...the newer software helps me know the influence of other media and also it allows me to bring in different sources that would be difficult to analyse without the new software...

Some respondents stated their need for greater speed in the analysis of data. As one respondent (CN5) suggested ...our computers are no match for the new software at all. What we need are better machines, rather than waiting all the time... Another respondent (CN4) supported this by stating that ...oh the software is very powerful, but sometimes – depending on the media, it is very slow. But we cope with that...

The issue of collaboration was raised by some respondents. As one respondent (CN6) suggested ...the software is very good. We also use live files so that we can be at home and still work on the data. It's very good. Very good...

MAIN THEME – ADVANTAGES

Another major issue concerned the presentation of research results. Many respondents, typified by one (CN9) indicated that ...most of the software does not allow you to effectively

present the outcomes of the research. This is disappointing... Another respondent (CN6) suggested that ...presentation of our research cannot be done directly in the software so we have extract it and put it in somewhere else. This is not so good...

Some respondents indicated that software packages were now becoming an important tool to ensuring the quality of their work – especially in terms of the audit trail. As one respondent (CN11) indicated ...we have to make sure that our research objectives are met and one way to ensure this is the ability of showing the line of where the data comes from, and how it's influenced the results... Another respondent (CN4) suggested that ...this is a major step towards helping ensure that we address quality issues...

DISCUSSION

This discussion will focus on the barriers and facilitators as developed through the theme development process. The outcomes indicate that there are 8 barriers and 13 facilitators (Tables 3 and 4 below) and that these together illustrate the diversity of research practice opinion of Thai clinical nurses. The stars (*) suggest where the emphasis is projected for their consideration in the research process.

Figure 3

Table 3 – Barriers

Barriers (8)	Research Preparation	Analysis Stage	Research Presentation
Time for Research	*	*	
Research Guidance	*		
Coding Issues	*	*	
Ease of Software Use		*	
Data Analysis		*	
Data Preparation	*	*	
Training/Support	*	*	
Cost	*	*	*

Figure 4

Table 4 - Facilitators

Facilitators (11)	Research Preparation	Analysis Stage	Research Presentation
Publishing Need	*		
Collaboration	*		
Helps focus the methodology		*	*
External Guidance	*	*	*
Own Experience		*	
Research Group Suggestions		*	*
Features/Flexibility of Software	*	*	*
Enhance Research Validity	*	*	
Ease of Data Preparation		*	*
Triangulation	*	*	*
Speed	*	*	*
Presentation of results		*	*
Transparency of audit trail		*	*

The findings above raise important topics that need to be considered by management of nursing facilities on how to initiate and develop appropriate qualitative research outcomes in health settings. The findings suggest that careful management of qualitative research projects are necessary and there is a need to help clinical nurses perform research more effectively by focusing on relieving the barriers and enhancing the facilitators.

REDUCING THE BARRIERS

In terms of the first research question. Hospital managers could help to give more time for research (following O'Grady et al.; 2007), through developing on-site mentoring schemes; introduce specialist training in research methodologies through collaborative instruments with universities; streamlining the research process so that Thai clinical nurses could learn and engage with a more effective research process (Majumdar and Boonyanuluck, 2001). Further, introduce research teams that span across clinical disciplines that are designed to offer greater awareness and sharing of research protocols, processes and outcomes (Klunklin et al., 2010).

In terms of the second research question. Hospital managers could help choose software for qualitative analysis in conjunction with clinical nurses requirements and views along with other users; and provide on-going training support (Rubin and Rubin, 1995). Hospital managers could provide more integrative and streamlined research provision that that would also help to mitigate the effects of costs associated with research development and enhance deployment of new evidence and other research outcomes.

In terms of the third research question. Hospital managers could introduce new research designs in order to help reduce data coding issues (Harwood and Garry, 2003), enhance triangulation and provide for research audit trails (St. John & Johnson, 2000). Managers could also introduce collaborative structures across clinical disciplines (Adams and Vigilante, 2010) that would help with making focused decisions on software requirements that are pertinent to overall research needs.

ENHANCING THE FACILITATORS

In terms of the first research question. The pressure on nurses to publish (Melland, 1995) may be seen by some clinical nurses as a difficult part of their work schedule as its not part of their primary job (Schilling, 2005) and this may be reduced by potentially introducing team/group publication profiles, so all team members working collaboratively can be seen to have some input into publishing research (Stone et al., 2010). To increase the opportunity for publishing it may be appropriate to introduce pairs of researchers - as mentor and researcher - (Pololi et al., 2004) where experienced researchers could cooperatively publish research with less experienced colleagues. Hospital managers may realise that introducing nursing personnel to a more structured and supported research ethic will lead to greater collaboration, increased speed of research development and publication and influence a wider scope of research interests possibly leading to their own particular nursing specialty (Chester et al., 2007). Hospital managers may need to recognise that clinical nurses have valuable experiences to share (Heinrich et al., 2008) and that publishing research may provide the internal mechanism that helps clinical nurses become more knowledgeable and involved in their clients health and medical requirements.

In terms of the second research question. Hospital managers could introduce specialist training in research methodologies through collaborative mechanisms (such as iPath and Hospital OS) with research providers (Adams and Vigilante, 2010), that would lead to a reduction in preparation requirements whilst easing issues with research method adoption and creating transparency of the audit trail leading to increased confidence in research outcomes.

Managers could recognize the diversity of research requirements and suggest packages that meet a variety of requirements – that although may appear expensive can be used by the entire research group, rather than by singles/pairs operating independently.

Hospital managers could continue to build group/teams of researchers (following Pololi et al., 2004) that could widen the scope of research interest and thereby broaden the level of interests in further collaboration mechanisms. As publishing research becomes a major driver in clinical departments, mechanisms that introduce a pertinent and focused research culture may help to reduce the resistance to engaging in these activities, as well attempting to create additional value in terms of new knowledge and diversified skill application.

In terms of the third research question. This study potentially helps resolve conflicts pertaining to managerial implications of managing a nursing facility by making qualitative projects more effective and focused on the decisions pertaining to health matters thus reducing waste and developing more informed nursing staff – largely attentive to what matters to management, the clinician and health client. By engaging in and managing research projects, clinical nurses will be able to develop their skills in formal clinical investigation along with their writing, communication, and presentations skills and by doing so expand their clinical knowledge competences in their practice arena whilst taking greater responsibility for their nursing practices. Consequently, as such, there appears to be greater recognition in nursing circles of the importance and role of the development and diffusion of health research practices (Tetroe et al., 2008).

CONCLUSIONS

The use of qualitative research in a health setting is gaining ground and for some qualitative researchers QSTs offer speed and flexibility in assessing and analysing large volumes of generated data. QSTs are utilised by small numbers of qualitative researchers that attempt to use technology to explore and make sense of qualitative related-data through evidence clinical nursing practices that can enhance a qualitative researcher's primary investigation, methodological and data analysis response and reporting. The developed research questions were mapped to the generated 8 major themes, and supported by 21 sub-themes. The qualitative outcomes presented, highlight the various experiences, perspectives, opportunities and challenges that Thai clinical nurses face. The outcomes indicate that there are 8 barriers and 13 facilitators and that the impact of this research together suggests that top-level hospital managers need to build a more equitable resource base to streamline the available research provision to give greater support to clinical nurses engaging in evidence-based qualitative

research.

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