Supporting Indigenous Sexual and Reproductive Health via the Internet

Soar, Jeffrey and Yuginovich, Trudy

Abstract - ***The challenge of remoteness is an issue for both patients and clinicians in regional, rural and remote areas of Australia with limited attention having been paid to the needs for currency maintenance and enhancement of competency of practice nurses (PNs) in providing sexual and reproductive health (S&RH) education following initial formal preparation for these roles. This paper presents research-in-progress that is identifying needs, analysing issues and developing a model for Internet-based training and support to assist Australian practice nurses in their roles as S&RH providers.***

Index Terms – education, Information Systems, nursing, rural and remote, sexual and reproductive health

1. INTRODUCTION

The challenge of remoteness is an issue for both patients and clinicians in rural and regional areas. This research in progress aims to identify needs and models of solutions that are expected to enable the provision of online professional development and information access for practice nurses in rural and remote settings.

2. PROBLEM STATEMENT

Practice nurses work collaboratively with general practitioners (GPs) providing a range of services including patient counseling, education and support. In the short time of a GP consultation there is often not the opportunity for detailed explanations or for patients to ask multiple questions, or to ask more sensitive questions that patients might only ask after a period of time and once they felt comfortable.

Telecommunication technologies such as satellite communications, distribution of training videos, video-link, tele-health and teleconference education services are available in some rural and remote centres. These services are currently supplied mostly to hospitals but there is a lower penetration and adoption of technology-based information services in GP practices. This limits the options for practice nurses to obtain needed education in their own workplaces/ towns. Time constraints of GP consultations and the limited availability of women GPs in rural and remote areas suggests that PNs may be better suited to providing sexual and reproductive health (S&RH) education and support for clients. This research aims to develop and evaluate support for PNs in this role through Internet technologies.

3. LITERATURE REVIEW

There is little literature available which specifically focuses on the needs of practice nurses or consumer expectations relating to S&RH education provision by practice nurses, highlighting the need for a project such as this. A lack of exploration into patients' concerns and their awareness of choices leads to poor contraceptive compliance (Family Planning Australia 2003). PNs provide a less-rushed consultation allowing patients to more fully share their concerns. In addition, PNs are mostly women and may be preferred providers of services in rural and remote settings and for Indigenous women, especially in localities where there are no women GPs or where there is less access to women GPs than in metropolitan areas (Family planning Australia 2004). In a 2003 needs analysis conducted by the Wide Bay (Australia) Division of General Practice (WBDGP) identified that across the 732 GP practices in Queensland there are 586 Practice nurses. Only two of these nurses have qualifications in women's health

provision. Nationally in Australia there are 5091 GP practices employing 2349 Practice nurses and only twelve of these have qualifications in women's health. In the Wide Bay Division of General Practice (WBDGP) there are no nurses with women's health qualifications in general practice (Wide Bay Division of General Practice, 2003, p.420).

In 1998, the then Australian Minister for Health and Aged Care noted that 'the delivery of public health strategies depends on primary health care infrastructure as such are usually the first points of contact in rural and remote Australia' (Wooldridge 1998). This is especially the case in sensitive issues such as sexual and reproductive healthcare and information services in rural and remote Australia where the primary health care infrastructure is poor compared with metropolitan Australia (ADGP Practice Nurse Survey, 2003). Analysis of FPQ (Family Planning Queensland) data comparing clinics in Brisbane and Toowoomba (Australia) indicates that the ratio of planned to unplanned pregnancies as diagnosis was almost 4.8:1 for metropolitan Brisbane and 2.6:1 for rural and regional Toowoomba; almost twice the ratio of unplanned to planned pregnancies in rural compared to the metropolitan region. The data shows a wide variation in the use of contraceptive methods suggesting there may be inequalities in access to contraceptive advice and methods for rural women in comparison to metropolitan women (Family Planning Australia 2004).

A major gap is evident in the process of adequate preparation of practice nurses to manage women's S&RH health needs (Gore, 2005). In 2003/04, Family Planning Queensland (FPQ) specialist training courses in S&RH services were attended by 476 nurses (Family Planning Queensland, 2004). These courses included face-to-face training workshops followed by placement in clinical settings or update seminars. The training "equipped nurses as specialists in S&RH services" (Family Planning Queensland, 2004). Whilst this is a beginning, in order to compliment these training programs there is still a need for a mechanism for the on-going development, maintenance and enhancement of skills and knowledge for both specialist S&RH nurses as well as for general practice nurses who are likely to be called upon to provide effective and culturally appropriate S&RH in primary health care settings.

The need for improved educational opportunities for practice nurses has been recognized. This is especially the case in remote areas (Newsome et al., 2001). Research indicates that consumers are receptive to practice nurses having a significant role to play in providing support and health information, and a need has been recognised for practice nurses to adopt a more active and advocative role in patient education (Deitsch, Gibb & Francis, 2003). Brender (1997) and Soar (2005) suggest that to be effective, the development and implementation of information management services must allow for the involvement of users. No research has been conducted to date to establish how such training can be best provided to support rural and remote nursing in providing S&RH services including patient education.

4. SIGNIFICANCE

The research is guided by the vision, objectives and architecture of the national strategy for health information (BCG, 2004) and the Australian national health information integration project, Health*Connect* (Health Connect Office, 2004). It is anticipated that practice nurses will provide better S&RH provision to consumers leading to improved healthcare seeking behaviours by consumers, reduced complications of unwanted pregnancies and levels of post-natal complications in this geographical area.

5. METHOD

The research question driving this study asks: ***What are the needs, and what is an effective delivery model, for appropriate, ongoing professional development to support rural and remote practice nurses in providing sexual and reproductive health education to patients in their communities?***

To answer the research question, this study uses a four-phase process. The first phase is researching the needs of practice nurses for S&RH training. The second phase involves the development of a model for delivery of training. The third phase involves research into the integration of the findings into practice nurses' work-practices. The fourth phase will evaluate the effectiveness of the overall model including design issues. These four stages will test the hypothesis: ***The need for ongoing professional development to support rural and remote practice nurses in the provision of sexual and reproductive health education to patients can be addressed through an internet delivery system based on a model derived from research.***

(i) Hypothesis testing (Confirmatory)

The hypothesis testing utilises action research in a triangular format. This represents a form of collective, developmental, self-reflective inquiry undertaken by participants in order to bring together practical solutions to issues of pressing concern to people (Stringer, 2004). Key concepts of action research relevant to this research include the need for change, reflection, participation, inclusion, communication, practice, community, evaluation (reflection) as outlined by Street (2004). Investigation of specific issues such as in this research often reveal multiple dimensions of the situation requiring attention revealing further possibilities for action (Stringer 2004, p10). A particular strength of action research is that participants and stakeholders can be involved in one or more levels of the research and implementation of findings enhancing relevance of outcomes (Street 2004, p227).

Exploratory investigations have been carried out to understand the various aspects influencing educational products specific to practice nurses. This phase of the project is aimed at understanding the needs of practice nurses in training for S&RH. Once this is accomplished, a survey tool will be administered to PNs in the designated geographical area. Data collection includes both mail and phone techniques. The specific objective of this exercise is to explore perceived gaps in knowledge, needs for the delivery styles of training and information about S&RH and preferred delivery modes. The instrument will focus on educational aspects of contraceptive methods for PNs in rural Southern Queensland.

(ii) Determinants of the training model (Exploratory)

This stage involves the investigation of the determinants of the training model, in order to realise a framework for development and adoption of electronic-based training models and associated resources in appropriate delivery modalities. For example, this stage will explore issues raised by participants about the Internet, videoconference, teleconference; e-newsletters; searchable information databases and clearinghouses, forums and newsgroups to ensure sustainability of the training tool. This stage will also seek to identify determinants that dictate the direct delivery of training to the GP Practices where the nurses are employed. The delivery methods selected will be determined by the needs identified by participants in the previous phase. Behavioural outcomes to be explored during this phase include willingness of Practice nurses to access learning, the opportunity to access the same in the workplace, recognition by GPs of the value of this service to their practices, teaching sessions provided by Practice nurses and willingness to seek out health information from Practice nurses by consumers.

Rogers' (1995) innovation diffusion theory will be used to structure the determinants using five perceived attributes of an innovation, namely relative advantage, compatibility, complexity, trial-ability, and observability. Relative advantage is "the degree to which an innovation is perceived as better" (Rogers, 1995, p15) and measures both explicit and implicit advantages. Compatibility is defined as "the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters" (Rogers 1995, p15) and measures how compatible an innovation is with the existing culture, structure,

infrastructure, and previously adopted ideas. Complexity is defined as "the degree to which an innovation is perceived as difficult" (Rogers 1995, p16) and measures how difficult an innovation is to understand, learn, and use. Trial-ability is "the degree to which an innovation may be experimented with on a limited basis" (Rogers 1995, p16) and describes how easy an innovation is to try out or test. Observability is "the degree to which the results of an innovation are visible to others" (Rogers 1995, p16) and reflects how explicit are the results and outcomes of an innovation.

(iii) 'User acceptance' evaluation (confirmatory)

This phase involves the development and installation of a pilot training program based on the factors of phases one and two. While the development includes the choice of appropriate instructional strategies and learning approaches, the installation involves consideration of technical capabilities at practices. The evaluation of user acceptance will be conducted as follows: Development of a model of onsite education tool based on the determinants of phase (ii) and is confirmatory in nature. "Theory of Reasoned Action (TRA)" will be used for this purpose. Ajzen and Fishbein's (1980) theory of reasoned action (TRA) is "an especially well-researched intention model that has proven successful in predicting and explaining behaviour across a wide variety of domains" (Davis, Bagozzi & Warshaw 1989). TRA is "designed to explain virtually any human behaviour" (Ajzen & Fishbein 1980). Therefore, it should be appropriate to model the adoption of an onsite education solution. The TRA has broad applicability in diverse disciplines and has gone through rigorous testing that has proved its robustness in predicting intentions and behaviour (Davis, Bagozzi & Warshaw, 1989; Manstead, Proffitt & Smart, 1983; Bagozzi, 1981, Bagozzi, Baumgartner and Youjae, 1992; Sheppard, Hartwick & Warshaw, 1988).

Most people consider the implications of their actions before they decide to engage or not to engage in a given behaviour (Ajzen & Fishbein 1980). The TRA is built on the basis of the assumption that human beings are usually quite rational and make systematic use of the information available to them (Ajzen & Fishbein, 1980). Further, a person's beliefs or perceptions about the characteristics of the target system such as the onsite education model are antecedents to behaviour intent to adopt and use the system (Agarwal & Prasad, 1997). Whilst it is possible that intention can change with the passage of time, the previous research has shown that they are good predictors of actual future use (Davis, Bagozzi & Warshaw, 1989).

(iv) Evaluation of effectiveness of the onsite tool (confirmatory)

This phase will evaluate the effectiveness and sustainability of onsite educational program for practice nurses through focus groups followed by in-depth interviews to ascertain relevance, user-friendliness and transferability of learning by patients (consumers). As identified earlier this forms one of the important stages of this research as it enables all participants to own the outcomes of the research whilst ensuring that such outcomes are valid and relevant to their needs.

6. PRELIMINARY RESULTS

The first phase of the research has involved literature review and initial consultations with S&RH specialists. This has found that in rural and remote settings of Australia, Practice nurses (PNs) are a primary source, and sometimes the only source, of sexual and reproductive health education for patients and communities. There are few resources available and these practitioners often operate in isolation and with limited resources.

Initial consultations with S&RH specialists indicate that no programs currently exist to provide real-time sexual and reproductive health information services to assist community-based rural and remote health workers in Australia.

Consultations with FPQ staff support the findings of Harvey (2005) that women visiting GP services feel they have not always been

well informed in S&RH matters. Particular gaps in patient knowledge that are not always adequately addressed in include some of the timing issues related to contraception, such as information about inserting devices at a time in a cycle when pregnancy can be excluded with total confidence. Tailored accurate advice prior to the visit of the GP in remote areas could be provided by educated practice nurses to streamline and enhance the GP services. It would also assist patients in preparing to optimise the value of the GP consultation through preparing questions and ensuring patients understood the comments of the GP.

7. CONCLUSION

This research will be a significant contribution to theory and practice of nursing and health education for registered nurses throughout Australia. The likely beneficiaries from this research include rural and remote communities, Indigenous peoples, and the communities in developing countries particularly those coping with the HIV/AIDS pandemic and other sexually transmitted infections. It will also benefit communities in their family planning efforts. This is seen as the first building block to an ongoing program of research to enhance the quality and delivery of S&RH services across Australia and extending out to the Asia-Pacific region.

REFERENCES

[1] Agarwal, R. and Prasad, J., "The Role of Innovation Characteristics and Perceived Voluntariness in the Acceptance of Information Technologies", *Decision Sciences*, Vol. 28, No. 3, 1997, pp. 557-582.

[2] Ajzen, I. and Fishbein, M. *Understanding Attitudes and Predicting Social Behavior* Prentice-Hall, Englewood Cliffs, NJ, 1980.

[3] Bagozzi, R. P., "Attitudes, Intentions, and Behaviour: The Test of Some Key Hypothesis", *Journal of Personality and Social Psychology,* Vol. 41, No. 4, 1981, pp. 607-627.

[4] Bagozzi, R. P., Baumgartner, H. and Youjae, Yi, "State versus Action Orientation and the Theory of Reasoned Action: An Application to Coupon Usage", *Journal of Consumer Research*, Vol. 18, No. 4, 1992, pp. 505-518.

[5] BCG (Boston Consulting Group), *National Health Information Management and Information & Communications Technology Strategy*, Report commissioned by AHIC (Australian Health Information Council), 2004.

[6] Brender, J., *Methodology for assessment of Medical IT Based systems* IOS Press Omsha Japan 1997,

[7] Commonwealth Department of Health and Family Services, *Health and Family Services in Rural and Remote Australia*, Canberra, 1998.

[8] Davis, F. D., Bagozzi, P. B., and Warshaw P. R., "User Acceptance of Computer Technology: A Comparison of Two Models", *Management Science*, Volume 35, No 8, 1989, pp. 982-1003.

[9] Deitsch, E., Gibb, H., and Francis, K., "Abnormal pap Results and the Rurality Factor" *Australian Journal of Rural Health* Volume 11 2003, pp. 50-56.

[10] Family Planning Australia, "Far West NSW Project: The Women's Health Nurse Professional Development and Support Program" in *Annual Report 2004*, Family Planning Australia, Lynham, ACT 2004.

[11] Gore, C., *Report submitted to Family Planning Queensland* Family Planning Queensland 2004.

[12] Harvey, C., *Report submitted to Family Planning Queensland*, Family Planning Queensland 2005,

[13] HealthConnect Office, "HealthConnect-an overview"-updated December, 2004, http://www.healthconnect.gov.au/ viewed November 23rd 2005.

[14] Manstead, A.S., Proffitt, C. and Smart, J.L., "Predicting and Understanding Mother's Infant Feeding Intentions and Behaviour: testing the Theory of Reasoned Action", *Journal of Personality and Social Psychology*, Vol. 44, No. 4, 1983, pp. 657-671.

[15] Newsome, S., Cavanagh, S., and Hughes, R., *Outcomes of the National Workshop on Practice Nursing in Australian General Practice* (July)Melbourne , 2001.

[16] Queensland Government, *Nursing Act 1992* Go-Print Brisbane, 1992.

[17] Queensland Health, *Responding to Sexual assault and promoting sexual safety within Queensland Health and Inpatient mental health services*, Queensland Government, Brisbane, 2004.

[18] Queensland nursing Council, *Scope of Nursing Practice Decision Making Framework,* (amended 2004) Brisbane, 1998.

[19] Rogers, E. M. *Diffusion of Innovations*, 4th ed, The Free Press, New York, USA 1995.

[20] Schneider, Z., "Approaches to Quantitative Research" in Schneider Z Elliott D Lo-Biondo-Wood G Haber J 2003 *Nursing Research; methods, critical appraisal and utilization* (2nd edition) Mosby Sydney, 2003 pp250-275.

[21] Sheppard, B.H., Hartwick, J. and Warshaw, P.R., "The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research", *Journal of Consumer Research*, Vol.15 (December), 1988pp. 325-343.

[22] Soar, J., "Informatics in health and aged care: a research program to support strategy development and implementation" in Soar J, Ledingham I and Breton A (eds) *Proceedings of the 2nd Middle East Conference on Health Informatics*, Dubai, 9-10 April 2005, Royal College of Surgeons Edinburgh and USQ .

[23] Street, A., "Action Research" in Schneider Z., Elliott D., Lo-Biondo-Wood G Haber J., 2003 *Nursing Research; methods, critical appraisal and utilization* (2nd edition), Mosby, Sydney, 2004, pp.220-231.

[24] Stringer, E., *Action Research in Education,* Pearson, Merrill Prentice-Hall, New Jersey, 2004.

[25] Wilson, J., "Remote Aboriginal Health Managers: Key Practice Challenges", *Australian Journal of Rural Health* Volume 9, 2001pp.138-40.