Induced abortion in Papua-New Guinea- experience and opinions of health professionals.

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Although abortion is now relatively freely and legally accessible for women in Australia and New Zealand this is not the case in some other countries in the region. Around 25% of all pregnancies across the globe end in induced abortion, but where abortion remains illegal and unsafe millions of women are hospitalised each year for treatment of abortion-related complications, most frequently haemorrhage and sepsis, and abortion-related deaths leave thousands of children motherless.[1,2] Non-fatal longterm health complications of unsafe abortion include infertility and the consequences of genital tract trauma, such as fistulas. Most complications relate to the performance of abortion by untrained practitioners or by women themselves. The financial and logistic impact of unsafe abortion on the health systems of low and middle income countries (LMIC) is substantial; in 2014 the annual cost of providing post-abortion care in developing countries was estimated at US$232 million.[2,3]

Papua-New Guinea (PNG) is a LMICsituated in the Asia-Pacific region, and noted for its socio-cultural and linguistic diversity. An estimated 13% of the population of approximately nine million live in urban areas; transport and other services in rural and remote regions are limited.[4] Maternal health indicators are poor. Even though the country's prevalence rates for effective methods of family planning (for example longacting reversible contraceptives, LARCs) among married women have increased (from 32% in 2006 to 37% in 2016-18) there continues to be a large unmet need for effective contraception.[4] The maternal mortality rate is the highest in the Oceania region and one of the highest in the world, with an estimated 215-773 maternal deaths per 100,000 live births. [5,6,7] Puerperal sepsis and sepsis due to unsafe abortion are reported as the second leading cause of maternal mortality in PNG after postpartum haemorrhage.[7-12]

In PNG the legal framework surrounding abortion is contained within the Criminal Code Act of 1974, which reproduces the 1899 Criminal Code Act of Queensland, adopted as the law of the colony of British New Guinea. Since 1993, a ruling from the PNG State Solicitor has directed that an induced abortion may be undertaken to save a woman's life and/or to preserve a woman's physical and mental health, and can be legally performed by trained

providers in safe conditions, provided there is agreement by two medical officers. [8,9] However, in reality safe, induced abortions are not available for the majority of women in PNG and induced abortion is not available in any public health facility in PNG. Unsafe abortions are known to be practised throughout the country, although documented evidence is limited. Traditional herbal abortifacients and physical and mechanical means to end an unwanted pregnancy are described from a number of societies within PNG.[10-12] Self-starvation, self-poisoning, avoidance of antenatal care, and the use of traditional and modern contraceptives, such as Emergency Contraception, to terminate an unwanted pregnancy are reported. Obtained illegally, misoprostol (available legally for medical abortion in Australia and New Zealand and other countries) is now frequently being used for self-induced abortion in PNG. [13]

Induced abortion is a sensitive topic and abortion is frequently stigmatised in PNG. While this stigma may be perceived, or experienced, for those seeking both abortion and post-abortion care, stigma is also reported in relation to service delivery and at the policy level. The knowledge of health professionals in regard to abortion is of great value, as they are considered authorities on health issues and gate-keepers for women's access to safe abortion. Health professionals play a central role in the context of abortion, either by performing abortions in cases specified by law or by refusing abortion on legal, religious or ethical grounds. The stigma associated with abortions may cause providers to suffer discrimination in and outside the workplace. The lack of willingness and commitment among some healthcare providers to deliver timely, compassionate and supportive abortion care may directly or indirectly contribute to maternal mortality from unsafe abortion. Therefore it is important to understand healthcare providers' perceptions of and attitudes towards induced abortions, as their knowledge and their preparedness to offer these services have implications for the health system as a whole.

We therefore conducted a study of PNG health professionals, inquiring about their experience of induced abortion and their views on the provision of safe, accessible abortion services for PNG women.

Materials and Methods

Ethical approval for this research was given by the School of Medicine and Health Sciences (SOMHS), University of PNG (UPNG) Research and Ethics Committee, 2nd October 2017.

The first part of the research, Study 1, was based around a questionnaire (Appendix A) developed from similar surveys conducted in Australia and New Zealand, and modified for conditions in PNG, where not all healthcare professionals have easily accessible internet services.[13-15] In 2017 the questionnaire was distributed by email to all doctors- Senior Medical Officers (SMOs) and Medical Officers (MOs) working in obstetrics and gynaecology in the provincial hospitals of the public health system - and the responses were collected in the same way. Participation in the survey was voluntary, and no identifying data was collected. For Study 2, in 2020, the same questionnaire in paper form was distributed in person to all doctors at the level of registrar/MO and above in Port Moresby General Hospital (PMGH) and all nursing staff in both the obstetrics and gynaecology (O&G) department and non-O&G departments, as well as all medical students in the 2nd to 5th years in UPNG SOMHS, all nursing students and all health sciences students. Again, the completed questionnaires contained no identifying information.

The raw data from the questionnaires was entered into Excel spreadsheets and imported into SPSS v25. Univariate analysis was performed to describe the characteristics of all participants. Chi square tests were performed to compare the combined responses of all participants to the 2020 survey in regard to their knowledge of abortion law, and their views on whether PNG women should have access to safe, legal, effective abortion methods.

Results

Study 1 collected data from 43 of 44 invited participants and the results are shown in Table 1. More data were derived from Study 2 which comprised more nurses (63.2%) than doctors (36.8%) as shown in Table 1. All (100%) of nurses (both general and O&G) who were invited to participate did so. Doctors who participated included 83% of SMOs (29 of 35) and 81% of MOs (34 of 42).

Response rates for students were 71.6% (154/215) for medical students (MBBS), 100% for nursing students and 73% (136/186) of health sciences students.

Detailed results are shown in Tables 2 and 3.

Among medical practitioners there was very significant experience of women presenting with complications of induced abortion, 42 (97.7%) of provincial doctors, 18(62%) of PMGH SMOs and 26(76.5%) of MOs reporting this; all (100%) of nurses working in O&G and 26% working in non-O&G departments also reported this experience. Among students of UPNG SOMHS 177 (46.8%) had some experience of induced abortion, either personally or involving a friend or relative. A large proportion of all health professionals reported that misoprostol was frequently used to induce abortion, and that relatively often women agreed that the drug had been sourced from health professionals working in clinical roles in the health system.

Women presenting with complications of induced abortion were more likely to disclose that they had self-administered misoprostol or other prescription drugs to induce abortion to O&G nurses than to SMOs, $p = .002$.

When questioned about their understanding of PNG law in relation to abortion, non-O&G nurses were more likely to agree that abortion is illegal in all circumstances or legal in some circumstances and the law is clear, compared with SMOs ($p = .003$) and MOs ($p < .001$) who were more likely to believe that it is an uncertain area that requires reform and/or clarity.

When asked whether PNG women should have access to safe, legal, effective abortion methods as part of their reproductive health services, there were significant differences between O&G nurses (who reported conflicting views, either 'as women's choice' or 'never') and non-O&G nurses who were more likely to agree to abortion provision 'in some circumstances', $p<.001$.

There was also a significant difference between SMOs' and O&G nurses' views on this question: SMOs were more likely to agree that women should have access to abortion in some circumstances, whereas O&G Nurses were more likely to agree that women should have access based on choice, or never, $p = .045$. MOs and O&G nurses also significantly differ on this question: MOs are more likely to agree that access to safe, legal, effective abortion methods should be available in some circumstances compared with O&G nurses who are more likely to say never, $p = .004$.

Significantly more MBBS students think that abortion is an important health issue for PNG women compared with health science and nursing students, $p = .012$. Significantly more

health science and nursing students believe that abortion is illegal in all circumstances compared to MBBS students, and significantly more MBBS students believe it to be legal in some circumstances compared with health science and nursing students, $p < .001$.

Significantly more MBBS and Health Science students believe abortion is legal in the case of rape compared with nursing students, $p = .003$. Significantly more nursing students believe termination is legal in medical cases relating to the mother's safety compared with MBBS and health science students, $p < .001$.

A greater proportion of MBBS students believe that women should have access to safe, legal, effective abortion methods as part of their reproductive health services in some circumstances, compared with health science students ($p < .001$); the latter are more likely to believe that women should never have access to safe legal abortion. However significantly more health science students are undecided about this issue than nursing students, $p = .023$.

Of those students who agreed that PNG women should have access to safe, legal, and effective abortion methods as part of their reproductive health services in some circumstances, significantly more nursing students compared with MBBS students agreed that medical indicators should be a circumstance for abortion, $p = .003$. However, significantly more MBBS and health science students agreed that both medical and socio-economic circumstances should be factors, compared with nursing students, $p < .001$.

Discussion

Our results clearly show that women continue to present with complications of self-induced abortion to health care providers of all categories in all regions of PNG. It is known from other studies that severe haemorrhage and sepsis remain the main causes of maternal death from self-induced abortion, in PNG as elsewhere.[10-12] Frequently used methods for self-induced abortion identified by participants in our study are misoprostol, traditional herbs and physical methods. It is widely believed among PNG health professionals that misoprostol is often illegally supplied by health workers who have limited knowledge of the proper use and safety of this medicine.[13] WHO has a specific protocol for safe medical

abortion using mifepristone and/or misoprostol, recommended to be performed no later than 12 weeks' gestation. [14,15] It is known that when misoprostol is used before 12 weeks in safe, documented situations, up to 85% of women will undergo an abortion with no complications, which suggests very wide use of the drug now in PNG, with the majority of women using it never having any need to present to the health system.[14]

O&G nurses reported the greatest experience of women presenting with complications of induced abortion, all (100%) having had such experience. Significant numbers of MOs and SMOs (almost 100% of provincial doctors) also report having provided care for women presenting with complications of, or following, induced abortion.

However many healthcare workers, regardless of their category and of their years of experience, still lack full understanding of PNG law in relation to abortion. We found that in general, healthcare providers who have been involved in the management of women with complications of induced abortion believe that abortion is legal in some circumstances and the law is clear. On the other hand, those who had no involvement with women presenting with complications of abortion were more likely to believe that abortion is illegal in all circumstances, either because of little clinical exposure, or refusal to be involved in post-abortion care owing to fear of legal implications. The latter may be an indication of stigma.

The conflicting views among O&G nurses and SMOs about whether PNG women should have access to safe, legal and effective abortion methods as part of their reproductive health service further indicate a need for in-service training on this important health issue. Across all categories of healthcare providers a majority believe that women should be able to access safe abortion methods in some circumstances. However, a substantial number of O&G nurses, compared to other nurses and doctors, believe women should never be able to access safe abortion methods. These conflicting views may be attributed to religious beliefs, however we did not explore this possibility in the study.

Our study findings have some similarities to those of studies included in a systematic literature review on the perceptions and attitudes of healthcare providers in sub-Saharan Africa and Southeast Asia.[16] This found that nurses and midwives disliked being involved in abortion care, and commonly reported hesitancy in providing such services. Nurses' resistance to providing abortion services was a powerful barrier against access to safe

abortion, with nurses' and midwives' strong opposition to abortion affecting rural women in particular. In contrast, findings from a recent descriptive study among health care providers in Thailand showed that nurses and supporting staff could be potential target groups for further training. [17] The evidence from this study indicated that following the implementation of a training programme, healthcare providers' attitudes towards unplanned pregnancies and unsafe abortions became significantly more positive.

Training on safe abortion care is useful to a wide range of health professionals, institutions and organisations, who in turn can play an important role in creating awareness of unsafe abortion and the provision of safe abortion services.[18] Abortion care is not only a matter for obstetricians and gynaecologists. Non-obstetric doctors and support staff can make a major contribution.

Our study has highlighted the need to equip PNG medical, nursing and health sciences students with the knowledge to enable them to meet the increasing demand for safe abortion care. In particular health sciences students' understanding of PNG law in relation to abortion is conflicting and not supportive of access to appropriate care for PNG women.

A recent descriptive study, 'Abortion: attitudes, training and experience among medical students' in Jamaica showed that having prior personal experience with abortion was the strongest predictor of favourable attitudes towards abortion.[19] The authors recommended strategies, including education about the clinical aspects of abortion and the relevant local legal situation in the medical school curriculum, to improve medical students' understanding of the public health implications of abortion. The need for abortion education was clearly expressed by medical students in a Malaysian study, which showed that almost all medical students in both public and private universities were in favour of having more training around abortion care.[20] Moreover, approximately 80% of students in this survey reported their intention to provide some forms of abortion services in their future practice. Another study from India revealed that the more medical students had reproductive health and contraceptive methods included in their study program, the better they scored in knowledge and attitudes on abortion care, [21]

Limitations for our study are its descriptive nature and the fact that participation was voluntary. The strengths lie in the fact that a wide range of health professionals was invited

to participate, and a majority in each category did so. This is the first study conducted looking at the knowledge and opinions of abortion of PNG healthcare workers, and we hope that it will be useful in informing and implementing safe accessible abortion care for PNG women.

The transition from unsafe to safe abortion in any society including PNG demands an increase in the knowledge of healthcare workers and students around the reasons women seek abortion, and the methods available in the 21st century. Abortion training for service providers and provision of services at the appropriate primary level health service delivery points are necessary to ensure that PNG women have equitable access to these services instead of seeking out services from untrained providers or attempting self-abortion. More innovative approaches, including abortion counselling and management, also need to be adopted to complement family planning efforts in PNG.

2565 words

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