

To report or not to report, that is the question – the phlebotomist's perspective

AD Butkovic, BTech (Occupational Health), Technikon Witwatersrand
FHJ Venter, MCur, Nursing Science Department, Technikon Witwatersrand

Abstract

Late and non-reporting of injuries amongst phlebotomists in South Africa is a problem. With the high incidence of the infectious and eventually fatal diseases of HIV, Hepatitis B and C in South Africa, this problem had to be explored in order that all health care workers obtain timeous treatment (medicinally, socially & psychologically) in the future.

Thus a functionalistically based study was done in the context of one of the largest laboratories in Gauteng. Phase One encompassed quantitative exploratory research with a questionnaire being purposefully applied to 100 phlebotomists. Slight concurrency was discovered from this survey when compared with the American situation. These concerns were used in conjunction with educational tools in Phase Two, a quasi-experiment, on three purposefully selected departments to influence the dependent variable of prompt reporting.

The use of an in-service lecture with visual reinforcement has proved in this study to be an educational solution for occupational health nurses, health and safety representatives and health educators to use in motivating employees to promptly report injuries and incidences. However, due to time limitation, the effect these have on reducing the occupational complications such as unnecessary absenteeism and death is still a hypothesis to be studied.

Abstrak

Die laat en nie-rapportering van naaldprikbeserings onder bloedmonstersamelingpraktisyns skep probleme. Met die hoë insidensie van die oordraagbare en uiteindlik dodelike siektes soos HIV en Hepatitis B en C in Suid Afrika, het dit nodig geword om hierdie probleem te ondersoek om sodoende te verseker dat alle gesondheidsdienswerkers vroegtyding in die toekoms behandeling (medikasie, sosiaal asook sielkundig) ontvang.

'n Funksionele studie is uitgevoer binne die konteks van een van die grootste patologiese laboratoriums in Gauteng. Fase een van die studie het 'n kwantitatiewe, eksploratiewe ontwerp gevolg waarin 'n vraelys doelgerig aan 100 bloedmonstersamelingpraktisyns vir voltooiing gegee is. Geringe ooreenstemming is bepaal in vergelyking met die Amerikaanse situasie. Die besorgdhede voortspruitend uit die resultate van fase een is geïntegreer in 'n onderrigprogram wat doelgerig toegepas is op drie departemente tydens 'n kwasi-eksperimentele studie om die invloed van die onderrigprogram op die afhanklike veranderlike nl. spoedige rapportering, te bepaal.

Die gebruik van indiensopleiding met visuele versterking het tydens hierdie studie 'n moontlike oplossing getoon vir beroepsgesondheidsverpleegpraktisyns, gesondheids- en veiligheidsvertegenwoordigers asook gesondheidsvoorligters in die proses om werkers te motiveer om beserings en insidente spoedig te rapporteer. 'n Tydsbeperking in die studie het tot gevolg gehad dat die positiewe effekte van die vermindering van beroepskomplikasies soos onnodige afwesigheid en noodlottige siektes nie bepaal kon word nie.

Introduction

The researcher presently practises Occupational Health, Phlebotomy and conducts HIV Counselling. The researcher describes a phlebotomist as being a medically trained person who, whether a doctor, nurse or technician, collects specimens of bodily fluids such as blood, urine, stool, joint fluid, bone marrow etc. for investigation. The resident occupational health nurse of the selected laboratory attended to an estimate of 45 needle stick injuries in the year prior

to the commencement of this study. Of these 17 source specimens were confirmed HIV positive. The injured phlebotomists have to date not seroconverted.

However there is the **problem** of a high incidence of reporting times taking up to hours and days, and a suspicion that a high percentage are not even being reported, thus having an impact on the critical treatment (medicinally, socially and psychologically) that is involved. This has led to much emotional strain, absenteeism, job resignation/transfers as a result of

the implications only realised once delayed reporting was acted upon. One can further deduce that due to the severity and high incidence of infectious diseases in South Africa (CCOHS at <http://www.ccohs.ca>: Department of Health 2000 Seminar: HIV / AIDS in Primary Health Care) an increasing amount of medically trained staff could be lost unnecessarily if aspects regarding reporting are not improved.

Five American studies (Burke & Madan, 1997; Haiduven, Simpkins, Phillips & Stevens, 1999; Panas & Begley, 1999; Seaman, n.d; Webber, 1999) provided a baseline for reference to the concerns that prohibit phlebotomists from reporting their injuries, however none were conducted in a laboratory and/ or on the South African phlebotomist per se. The objectives of this study were thus to explore why the South African phlebotomist in particular would delay or not report their injury and to explore the impact of lectures and visual material/posters on better reporting rates.

Methodology

After reviewing Understanding Social Research by Mouton (1996), the American studies mentioned previously and an interview with I.Nalk (2000) a quantitative, exploratory, contextual and applied approach was decided upon. The researcher selected a prominent South African laboratory based in Gauteng with its periphery depots. The choices in this design were influenced by time and financial constraints.

Phase one consisted of the use of a questionnaire (a non-experimental quantitative method of data collection) which was statistically analysed and used for baseline data in Phase Two. A pilot study of the questionnaire was performed on the first 20 practising phlebotomists whom the researcher met at the main laboratory. Parallel testing during the pilot study enhanced the reliability and validity of the questionnaire as the need for modifications was recognised, eg grammar and clarity in some questions. Questions were focused on how many previous injuries were reported, how the last injury was handled, if company policies were followed, the concerns that delayed the phlebotomist and a section on what general knowledge the phlebotomist possessed with regards to implications of the post exposure treatment. The researcher was guided by the principles of a questionnaire as described in Seaman (n.d.: 34).

The researcher enlisted the help of charge sisters and a covering letter to motivate the target population of 200 phlebotomists presently practicing in the main laboratory in Gauteng to participate. All South Africans are represented in this number due to the company's affirmative action policies. However due to newspaper articles released just before the issuing of these questionnaires only 100 phlebotomists were prepared to participate. The sample group was purposefully selected to enable the participants to personally relate to the questions. The criteria enlisted were that they had to be South African as this had to be SA based, presently practising phlebotomy and have had at least one percutaneous or mucocutaneous injury at work during their careers. This was explained to include cuts / incisions, abrasions, lacerations, stab wounds (eg needle stick injuries) and splashes.

Phase two consisted of a quasi-experiment to test how effective two of the most prevalent educational methods (i.e. the in-service/lecture and the poster) could be used to address the concerns from phase one in encouraging prompt reporting. Three depots were purposively selected. The criteria included reporting of needle stick injuries and/or splashes from the depot and the presence of a large number of staff, thus more chance of injuries / incidences occurring that could be reported and/or observed. One depot was presented with just an in-service lecture, whilst the other was presented with just a poster. The third depot was presented with both a poster and an in-service lecture. Thereafter the depots were monitored by bracketed observers who were trained by the researcher to observe and report daily on any incidences and injuries.

The researcher based the in-service on the broad basis of principles as set out by Mellish & Brink (1989:56) whilst the poster was based on the principles laid out in Mellish & Wannenburg(1994:24) and Mellish & Brink (1989:68). Observation continued for up to four weeks due to the minimal injuries and incidences occurring. The staff at each depot was instructed verbally or through the poster to report on a pamphlet which required minimal information. They were to ensure that it got to their occupational health nurse at the main laboratory via the charge sister / health and safety representative depending on the degree of confidentiality required.

Ethically, consideration in respect of confidentiality and privacy was maintained through safe storage of data, and hypothetical questions on HIV statuses. Only voluntary participation was encouraged and written consent obtained. Consent for phase two had to be sought by the Heads of the Departments, as the researcher had to minimise the Hawthorne effect (Mouton, 1996:152) from the participants immediate awareness of being observed. The employee, however, were eventually informed. Nil personal complaints have been forwarded in this regard to the researcher's knowledge. Observers who assisted the researcher remain confidential. The observation period was kept short to prevent any undue mental stress for the observers. However the observers can fall prey to human error. For this reason there were at least two per depot and more in the larger depot. The researcher believes that installed rotating cameras would have yielded better results. However due to finances and the fact that some of the premises were not the property of the laboratory this was not an option.

Other limitations included negative publicity about laboratories in the media as described previously. Those that did participate indicated a high frequency for the concern of confidentiality as one of the reasons for inhibiting prompt reporting. The contextualness of this research serves as a starting point for further studies but limits the national generalisation of recommendations. Tremendous support and guidance from mentors at the research laboratory and the Witwatersrand Technikon has enhanced the validity and quality of the final report produced by this amateur researcher.

Discussion of results

In phase one only 78 (ie78%) of the questionnaires returned were adequately answered. Analysis is based on these 78. Of

the phlebotomists / participants who participated 6% were pathologists, 87% were nursing staff and 7% were technologists.

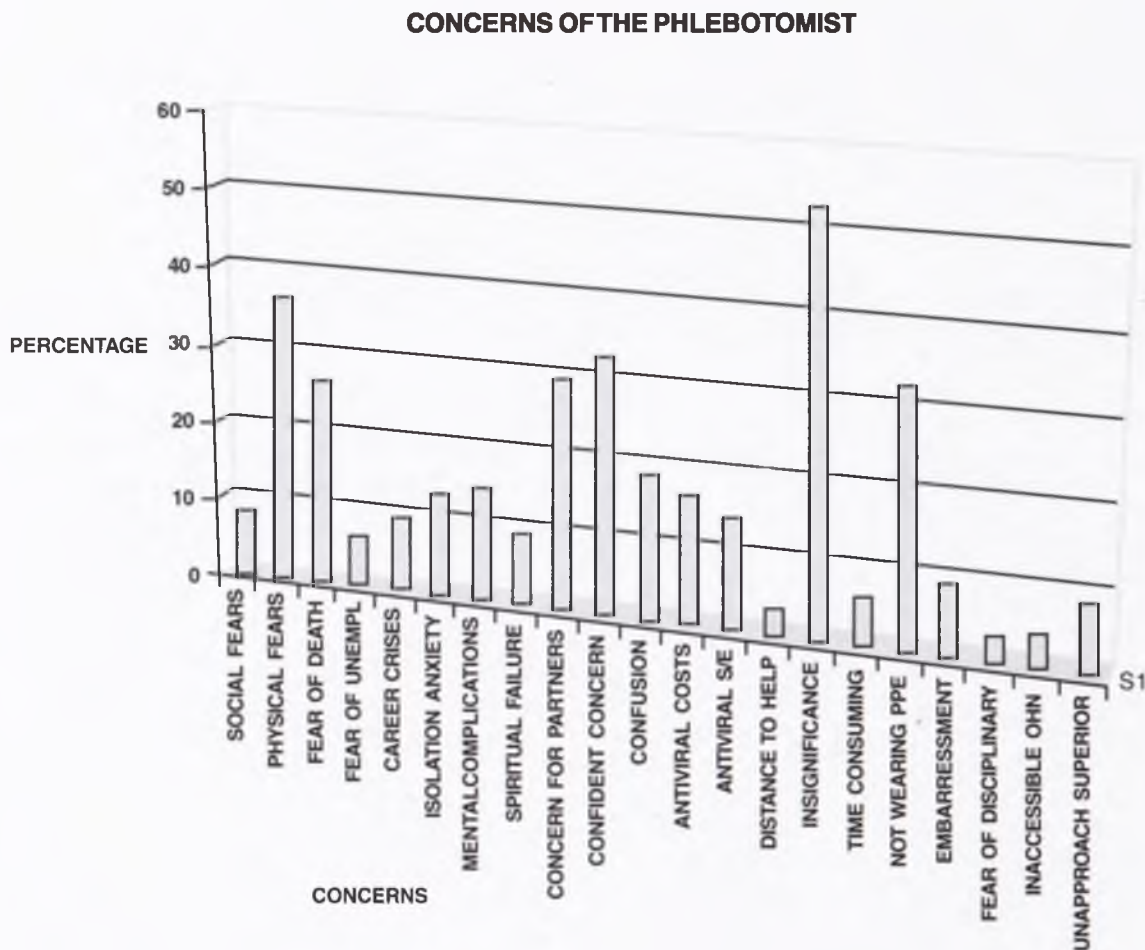
With regards to the participants' last injury, 40% had not reported it at all. Of the 60% that did report, only 9 (12%) reported it to the persons required as per the company policy. This can be collated with the finding that 69% of phlebotomists in their experience knew that incorrect reporting leads to delays. The remainder of the reported injuries is the 69 (88%) that were reported incorrectly. This implies that critical treatment in 88% of participants was most probably delayed and possibly contributed to the consequential recyclic negative attitudes later discussed.

Figure 1 indicates the extent to which the Concerns of The Phlebotomist led to a hesitancy and / or failure of the participants to report their injury:

16. Too Time Consuming (6%)
6. Isolation Anxiety (13%)
17. Not Wearing PPE (32%)
7. Concern on Mental Stability (14%)
18. Self Blame and Embarrassment (9%)
8. Spiritual Failure (9%)
19. Fear of being Disciplined (3%)
9. Concern that Partner & Marriage are Affected (29%)
20. Inaccessibility to Occupational Health Nurse (4%)
10. Confidentiality Concerns (32%)
21. Unapproachable Superior (8%)
11. Confusion (18%)

The concern with the greatest influence was that the injured phlebotomist would make a personal uninformed decision that the wound was too small and insignificant (item 15) to be reported (53%). The other concerns that showed up signifi-

Figure 1: Concerns of the Phlebotomist



1. Fear of Social Impact (8%)
12. Cost of the Antiviral Drugs (16%)
2. Fear of the Physical Effects of AIDS (36%)
13. Concern over the S/E of Antivirals (14%)
3. Fear of Death (26%)
14. Distance to receive Help (3%)
4. Fear of being Unemployed (6%)
15. Significance of the Wound (53%)
5. Threat to a Career Image & Career Progress (9%)

cantly were: (Burke & Madan, 1997; Haiduven, Simpkins, Phillips & Stevens, 1999; Panas & Begley, 1999; Seaman, n.d; Webber, 1999) physical fear in experiencing the disease of AIDS (36%), and confidentiality concerns (32%).

In the hypothetical question on knowing their HIV status, 24% revealed that they would report the injury to another laboratory and 41% would not report it at all, making a total of 65% hypothetical injuries that the company would not know

about. Collated with the 40% that did not report their last injury and 76% selectively reported injuries, the researcher deduced that there is a high extent of injuries that are not receiving critical treatment. It can further be deduced that if the concerns in Figure 1 were attended to through education and motivation, the working environment would be positively influenced.

With regards to other intellectual knowledge, 19% did not answer this section but most phlebotomists were aware that percutaneous and mucocutaneous injuries can result in acquiring HIV and Hepatitis B. Fewer mentioned that bacterial infections, Hepatitis C and haemorrhagic fevers can occur which are prevalent in sub saharan Africa. Eighteen percent (18%) knew that the prophylaxis had to be received within the recommended period of two hours. Thirty three percent are going to take longer than 2 hours to administer this critical treatment and 14% were unsure what the time limit was.

The five studies from America previously mentioned showed that they had a non report rate ranging from 13% to 59%. In this study 40 % of phlebotomists in a South African laboratory had not reported their last injury. There is a fair concurrency between this South African study and the five American studies for baseline concerns that need to be addressed. It must taken into account that we are worlds apart and that none of the American studies were done on practising phlebotomists per se.

From Phase Two it was discovered that a department receiving only verbal instruction reported only 1 in 5.3 incidences / injuries. For the department receiving only visual stimulus there was a report ratio of only 1 in 6.5 incidences / injuries. The best result was that both educational tools were required to improve the rate of reporting. This outcome was reflected by 1 in every 1.7 incidences / injuries being reported. These reporting times ranged from one minute to 40 minutes and were still dependant on the significance of the wound.

Conclusion and recommendations

The most significant finding was that more than half (53%) of phlebotomists would not report an injury mainly due to their attitude towards / self diagnosed significance of the wound. When associated with the finding that less than half of this South African group showed a lack in general knowledge regarding protocols and consequential occupational hazards that can result from an injury, other than HIV or Hepatitis B, a further deduction can be made. This is that the affiliation between the lack of knowledge and self diagnosed significance of a wound is a cause for the majority of late and non-reporting of injuries / incidences. The other deduction is that the self diagnosis is being based upon the personal lack of occupational health knowledge. This poses unnecessary health risks and emotional strain to the injured phlebotomist and those working around them. The old phrase that 'ignorance is bliss' gives a false sense of security and means that nothing can be done about the potentially hazardous situations if they are not reported timeously.

Other emotional concerns are also intertwined with the lack of knowledge issue and those were discovered to be the concern for confidentiality and having to suffer the physical effects of developing AIDS. Unnecessary psychological strain due to lack of knowledge, misconceptions and lack of counselling is suspected to lead to increased absenteeism and even death. This all poses a financial cost to the company when there is loss or lack of qualified and trained staff. Thus this study further investigated the effectiveness of a visual and verbal form of education in addressing these fears, the necessity for following protocols and general knowledge update in order to improve the rate of reporting and reduce occupational complications. This research proved that the use of visual and verbal education together was the most effective in motivating timeous reporting of all injuries and incidences. The hypothesis that timeous reporting will prevent unnecessary absenteeism and possible death is a study still to be investigated.

Recommendations included creating an information data sheet which should assist the phlebotomist in reporting the injury or incidence on the internal e-mail system with basic information. This will increase access to the occupational health nurse, keep her informed, reduce paperwork and provide a written report and copy for filing in the event that future claims are made. A hotline for professionals in the Gauteng area should be set up with access to counselling and cost effective prophylactic treatment, to encourage the improved reporting of incidents and perhaps improved prognoses because early treatment was received. Confidentiality must always be maintained. Education of staff with regard to a standardised protocol and repreating of incidents should be done by using a combination of an in-service lectures and posters for reinforcement is also recommended.

Special mention needs to be made to:

Dr C. Smith (MBChB, M.Med Path-Chemistry, Diplomas in Medical Technology)
Sr C. Dunne (Senior Occupational Health Nurse; Reg. Nurse in General, Advanced Cardiology and Paediatrics).
Thank you for your guidance and support through this study.

References

- BURKE, S & MADAN, I 1997: Contamination Incidents among Doctors and Midwives: Reasons for Non-reporting and Knowledge of Risks. *Occup Med (Lond)*. Aug 47(6) (1997):357-60. Internet. <http://www.ncbi.nlm.nih.gov>. 13/03/2000
- CANADIAN CENTRE FOR OCCUPATIONAL HEALTH & SAFETY 1997: OSH Answer Gram - Hepatitis B. Ontario, Canada: CCOHS.or Website at <http://www.ccohs.ca>
- DEPARTMENT OF HEALTH 2000: HIV / AIDS in Primary Health Care. Kempton Park, Caesars Palace: 25 March.
- HAIDUVEN, DJ, SIMPKINS, SM, PHILLIPS, SE & STEVENS, DA 1999: A Survey of Percutaneous / Mucocutaneous Injury Reporting in a Public Teaching Hospital. *J Hosp Infect*. Feb 41(2) (1999):151-4. Internet. <http://>

MELLISH, JM & BRINK, H 1989 : Teaching the Practice of Nursing - A Text in Nursing Didactics; Third Edition. Durban : Butterworth Professional Publishing (Pty)Ltd.

MELLISH, JM & WANNENBURG, I 1994 : Unit Teaching and Administration for Nurses ;Third Edition. Durban :Butterworth Professional Publishing (Pty) Ltd.

MOUTON, J 1996: Understanding Social Research. Pretoria: JL van Schaik Publishers.

NALK, I 1998: "Occupational Exposure to HIV and HBV, Post - Exposure Prophylaxis Protocol". Johannesburg: National Centre for Occupational Health.

PANAS, G & BEGLEY, A 1999 : HIV from Needle stick Injury : Are Health Care Workers the Cinderella of Compensation under OIDA. Occupational Health Southern Africa. 4(6),Nov/Dec. 1999: 38 - 42.

SEAMAN, KHC N.D: Research Methods; Principles, Practice, and Theory for Nursing ; Third Edition.

