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## The self reported patterns of alcohol consumption by registered nurses in Western Australia

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**THE SELF REPORTED PATTERNS OF ALCOHOL CONSUMPTION BY  
REGISTERED NURSES IN WESTERN AUSTRALIA**

**BY**

**K. Waters**

**A Thesis Submitted in Partial Fulfilment of the Requirements  
for the Award of**

**Bachelor of Nursing (Honours)**

**at the School of Nursing, Faculty of Health and Human  
Sciences, Edith Cowan University**

**Date of Submission: 7.7.94**

## Abstract

The study of self reported patterns of alcohol consumption by Registered nurses in Western Australia is the first Australian study that attempts to quantify the amount of alcohol consumed by nurses. This study also examines the type of alcohol related problem that nurses most frequently experience, and investigates the relationships between problematic alcohol consumption and the demographic categories of age, gender, area of nursing practice and geographical location of residence. The conceptual framework that guides the study incorporates a model developed by Thorley, and considers factors related to the intrinsic properties of alcohol, the environment and the individual which contribute to the development of an alcohol related problem. 500 nurses selected at random from the register held by the Nurses Board of Western Australia were sent a structured questionnaire by mail.

286 subjects returned questionnaires, and data was analysed using descriptive statistics and chi square to test the relationships. 15.4% of the participants reported alcohol consumption of a problematic nature, however the relationships between the demographic categories and problematic alcohol consumption were not significant at the  $p=0.05$  level. The findings of this study indicate that nurses alcohol consumption levels are higher and more

problematic than the general population of Western  
Australia, and suggest that an appropriate response by the  
profession is a matter of some urgency.

## USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

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I certify that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signature

Date...30/1/95.....

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## CHAPTER 1.

### INTRODUCTION

It is acknowledged that in the United States of America (U.S.A) nurses have a 50% higher incidence of drug and alcohol related problems than the general population (Kabb,1984). Green (1984) has postulated that at sometime during their careers, approximately one in seven nurses will experience problems directly related to their drug or alcohol use. The majority of the literature specifically related to nurses substance use does not differentiate between substances, frequently referring to alcohol and other drug use synonymously.

The American Nurses Association (1984) has estimated that 6-8% of nurses may have a drug or alcohol problem, but have not attempted to measure this. There is no clear evidence or agreement as to the precise extent of drug or alcohol related problems within the nursing profession in the U.S.A. No research has been conducted to describe the extent of alcohol use by nurses in Australia, or to examine any associated problems.

O'Connor & Robinson (1985), suggest that estimates cited in the literature are suspect in the absence of an accepted definition of what constitutes an alcohol or drug problem.

The way in which a drug or alcohol problem is viewed varies significantly amongst different countries, and within different sectors of communities within the same country. To look at the potential problem on a local level, the first step must be to establish the existence of a problem within the parameters used by the population from which the sample is drawn. The view of addiction as a primary disease process is used by many of the North American studies which consider the substance use of nurses. In Australia, there is a broader view of addiction, focusing on factors which contribute to drug and alcohol use, based on the principles of social learning theory.

This study establishes whether the consumption of alcohol by nurses is of significance to the Nursing population of Western Australia.

#### BACKGROUND AND SIGNIFICANCE

Surveys of alcohol use have only been undertaken in Australia since 1970 (Norton, 1983). Study samples have been taken from small towns, suburbs, cities and nationally, often confusing possible changes in alcohol consumption over time with different populations. Measurements of alcohol consumption vary considerably from study to study, making it difficult to compare one study with another. Overall, there has been a lack of repeat or follow up studies involving similar populations.

At the request of the Health Department of W.A., during October 1985 the Australian Bureau of statistics collected information on alcohol consumption patterns in Western Australia as a supplement to the Australia wide monthly population survey. Data classified subjects as light, medium and heavy drinkers. Based on daily consumption levels, light drinkers consumed less than 3.5 glasses of beer or wine or less than 4.5 glasses of fortified wine or nips of spirits, medium drinkers consumed more than this but less than 7 glasses of wine or beer or nine glasses of fortified wine or nips of spirits and heavy drinkers consumed greater than this. This classification was common for males and females. Even those that fall into the light category would be considered unacceptably high for women under the more recent guidelines proposed by the National Health and Medical Research Council (NHMRC). The results indicated that 56.3% (n=560,300) of people were light drinkers, 8.5% (n=84,600) were medium drinkers and 2.5% (n=24,700) were heavy drinkers.

The relationship between alcohol and the workplace has long been of interest to researchers. As early as 1962, Trice identified the need for studies examining the influence of various types of occupations on alcohol use.

Drug and alcohol related problems can destroy professional and personal lives and incur high costs for employers due to lost productivity, questionable professional judgement and

greater use of employee resources (Sullivan, Bissell & Leffler, 1990).

Since the late 1970's, employers have been aware that employees with drug or alcohol related problems contribute significantly to high employment costs, and are involved in more accidents, both in the workplace and in the home (Smith, Mangelsdorf, Louderbough and Piland, 1989). Where precision and dexterity are required, many employers have introduced firm policies on drug or alcohol use (Booth, 1987). Following identification, employees are followed up by programmes designed to assist those who have difficulties related to their substance use (Booth, 1987). Sullivan, (1987), constructed an instrument and compared a group of 139 recovering Registered Nurses and 384 non-chemically dependent nurses. In the recovering group, 79% stated their substance abuse had interfered with their job performance.

Despite these examples in other industries, employers in the health professions have developed either critical and punitive attitudes towards employees or colleagues experiencing problems, or denied the existence of the problems altogether (Stepter, 1982). In many health care settings, staff problems due to drug and alcohol use are covered up, disguised or hidden (Selbach, 1990; Stepter, 1982; Shaffer, 1988).

Nurses constitute a large proportion of employees in these settings. Current interventions in Western Australia include

suspension of Registration to practice or dismissal from employment. The Western Australian Nurses Act of 1992 includes a clause on drug and alcohol use and Nurses Registration Boards in each state of Australia are formulating standards and competencies for Nursing practice, with reference being made to drug or alcohol dependence. Recommendations have been made that interventions should move toward support and rehabilitation (Nurses Board of W.A., 1993). Until a definition of what constitutes a problem is clear and the existence of a problem among the local population established, it is premature to develop strategies for response. Once a knowledge base has been established, the profession can then move on to examine appropriate and useful strategies to assist those nurses affected. Earlier intervention could occur, minimising damage resulting from problems left undetected, unacknowledged or hidden.

North American state licensing boards and state nursing associations are developing programmes, or have already established programmes, to assist nurses with drug or alcohol related problems. To follow these models of programme development could pose a number of difficulties for Australian nurses because of the way addiction is viewed in North America. Selbach, (1982); Hutchison, (1985); and Roth, (1987), all describe chemical dependency as a primary progressive, chronic disease. Reference is also made to addiction in this manner by the Registered Nurses



Association of British Columbia and numerous other American state Nurses Associations.

In Western Australia, the emphasis is placed on addiction as a social learning process, based primarily on the model described by Bandura (1977). Most of the health promotion strategies and many treatment agencies have developed interventions accordingly. In order to utilise existing resources effectively, consideration of fundamentally different approaches is vital in the planning and information gathering stage. Furthermore, to focus on nurses deemed chemically dependent implies a great deal of damage has already occurred. Dependency is a severe stage of drug and alcohol use that many people who are experiencing drug or alcohol related problems never reach, and this much larger group of nurses may also require intervention. Current research into alcohol related harm, in keeping with current directives of the W.A. Health Department, suggests that earlier intervention is a more effective and less time and resource consuming process (Chick, 1988; Chick, Lloyd & Crombie, 1982).

This study examines alcohol consumption patterns alone. According to the federal government publication Statistics on Drug Abuse in Australia 1992, (Department of Health, Housing and Community Services), alcohol remains the second most widely used drug, with tobacco the most frequently used. The legal implications of illicit drug use may also affect accuracy of information given about these substances.

A study conducted by Smith, Mangelsdorf, Loderbough and Piland (1989), on types of drugs most frequently used by nurses concluded that alcohol was used by 6% of their subjects on a daily basis, with a further 21,7% using alcohol once or twice per week. Quantities consumed or problems experienced were not discussed.

This study seeks to identify nurses experiencing alcohol related problems as well as those who are drinking at potentially harmful levels. To focus on symptoms of dependency alone would fail to identify the nurses who are experiencing problems related to other aspects of their alcohol use.

## DEFINITION OF TERMS

**ALCOHOL USE** -the consumption of alcohol

**ALCOHOL RELATED PROBLEM** -a problem that can be directly related to an individual's alcohol consumption, not confined to health

**DEPENDENCE** -reliance on, or the inability to refrain from alcohol use, based on the degree of discomfort felt when alcohol is not used

**HIGH RISK USE** -the consumption of alcohol in quantities or at a frequency that presents a high risk of harm occurring, (based on National Heart Foundation recommendations)

**INTERMEDIATE RISK** -the consumption of alcohol in quantities or at a frequency that presents an intermediate risk of harm occurring, (based on National Heart Foundation recommendations)

**INTOXICATION** -to be heavily under the influence of alcohol, usually, but not exclusively, associated with the consumption of large quantities of alcohol

**REGISTERED NURSE** -an individual who has successfully completed a prescribed course of study in nursing and is licensed to practice as a Registered Nurse in Western Australia

**REGULAR USE** -habitual consumption of alcohol on a regular basis

**STANDARD DRINK** -refers to an alcoholic beverage containing ten grams of alcohol. A 285 ml glass of full strength beer,

a 30 ml nip of spirits, a 120 ml glass of wine or a 60 ml glass of sherry or port are all standard drinks.

#### PURPOSE OF THE STUDY

The purpose of this study was to examine the self reported quantity and frequency of alcohol consumption by Registered Nurses in Western Australia. The study also investigated whether a particular pattern of alcohol consumption, as defined by Thorley (1985), contributed to alcohol related problems that the nurses experience.

#### RESEARCH QUESTIONS

1. What is the self reported frequency of alcohol consumption by Registered Nurses in Western Australia?
2. What is the self reported quantity of alcohol consumed by Registered Nurses in Western Australia?
3. What is the health risk associated with the quantity and frequency of self reported alcohol consumption by Registered Nurses in Western Australia, as defined by The National Heart Foundation of Australia?
4. Do Registered Nurses in Western Australia experience alcohol related problems?
5. Do Registered Nurses in Western Australia who experience alcohol related problems have more frequent

problems in the area of intoxication, regular use or dependency?

6. What is the relationship between nurses problematic alcohol consumption and:-

-age

-gender

-current nursing practice

-area of nursing practice

-geographical location of residence

### OBJECTIVES

The main objectives of this investigation were:

1. To establish whether Western Australian nurses were drinking alcohol in a manner that was likely to pose a risk to their health
2. To study which pattern of alcohol consumption was most likely to contribute to, or cause, an alcohol related problem for Registered nurses
3. To study the relationship between nurses alcohol consumption, their age, gender, area of nursing practice and geographical location of residence
4. To utilise this information as the beginning of a knowledge base on nurses alcohol consumption in Western Australia

## CHAPTER 2

### REVIEW OF THE LITERATURE

Problems related to the consumption of alcohol may be experienced by individuals from all sections of the community, and nurses are no exception (Roth, 1987). Although there is little agreement about the precise extent of problematic alcohol use within the nursing profession, and less agreement about the definition of problematic alcohol use, it is generally acknowledged in the U.S.A. that nurses experience drug and alcohol related problems at a rate equal to or higher than that of the general public (Canfield, 1976; O'Connor, 1985). Roth (1987) suggested that the incidence of substance use among nurses is fifty percent higher than the general population, with one in seven nurses "at risk". This study, however, used data collected from physicians, nurses and other health professionals, and attempted to generalise the findings to nurses alone. Naegle (1985) suggested that at the time of writing, 6% of the 1.9 million nurses in the U.S.A. abused alcohol and/or drugs, and that nurses are two to three times more vulnerable to alcoholism or drug abuse than other professional groups. Data was collected from information sent to the American Nurses Association from the individual state licensing boards, and was related to disciplinary actions reported to the boards. As only 14 states in the

U.S.A. currently have mandatory reporting policies, it can be assumed that these figures significantly under-represent the extent of the problem.

Bissell (1984), in her study of alcoholism in the professions, estimated at that time there were 40,000 alcoholic nurses in the U.S.A. Bissell and Jones (1981) found that nurses believe themselves to be at high risk for the development of alcoholism or drug dependency because of their high levels of work related stress and their ready access to drugs. However research has not substantiated whether these factors do actually contribute to nurses high level of drug and alcohol use.

Several authors present profiles of chemically dependant nurses (Costello, 1984; Green, 1984; & Sandroff, 1982). These profiles highlight the isolation that these nurses experience and indicate the need for appropriate, supportive intervention in the workplace. As isolation was an experience that all these nurses described independently, geographical isolation may also prove to be an important demographic indicator of potentially problematic alcohol consumption. In commenting on the prevalence of alcohol or drug use in Home Health Care nurses, equivalent to Australian Community nurses, Thobaben (1991) discusses professional isolation as an ideal opportunity to conceal drug or alcohol use. Accordingly, demographic information on the place of work was sought in this study. Many nurses practice outside the traditional hospital ward environment,

and many nurses work independently. In writing about her personal battle with alcohol use, an anonymous nurse, published in the Journal of the American Operating Room Nurse, (1985), describes her need to work independently in order to isolate herself from her colleagues and avoid their potential recognition of her problem. Nurse Managers, nurse researchers, nurse educators, community nurses and industrial nurses all work in varying degrees of isolation. These sub-groups of nurses will be categorised and examined independently, to look for differences in their patterns of alcohol consumption.

The U.S. Department of Health and Human Services (1982) described nurse educators as self-regulatory. Other nurses working independently could be described in the same manner. Gerace (1988) studied the patterns of alcohol use among nurse educators and comments that the stress and responsibilities of self-regulatory workers may place them at risk of developing problems such as alcohol or drug misuse. She studied 160 nurse educators employed more than half time in an academic institution. When alcohol consumption scores from this study were compared with data on drinking patterns for American adult women (Clark & Midanik, 1982) it was found that there were fewer abstainers and heavy drinkers in the nurse educator sample, and more light and moderate drinkers than would be expected. Schwartz-Barcott and Schwartz's 1990 study on nurses general health and happiness found that 82.8% of nurses compared



with 66% of other females used alcohol and 29.2% of nurses reported regularly using alcohol "more than they should". Smith et al, (1989); Thobaben, (1991); Stepter, (1982); Gelfand, Long, McGill & Sheerin, (1990); and Booth, (1987), address nursing management concerns, which focus largely on identifying the nurse with a problem in order to institute disciplinary procedures. There appears to be a general level of acceptance that drug or alcohol problems exist among nurses without adequate research to support this assumption. Elliot and Williams, (1982); Selbach, (1990); and Clemmer, (1987), discuss treatment and intervention options, which could be premature as treatment issues cannot be adequately addressed until the existence and extent of any problem is clearly identified.

Talmadge-Reed, (1983), suggests that nurses' alcohol related problems may be due to nursing being a "women's" profession, and more women in general are drinking alcohol. Gender does not appear related in the manner suggested, as more than 15% of members of support groups in the U.S.A. for nurses with drug and alcohol problems are men, while only 3% of all nurses are male (Sullivan, Bissell & Williams, 1988). However in view of Talmadge-Reed's comments, it will be useful to examine gender.

Eng's (1982) study of alcohol use among Australian professional students showed nursing and social work students to have lower rates of alcohol use than law, medical and pharmacy students. The nursing and social work

students were largely female, and the other students predominantly male. Alcohol consumption is still significantly higher in males than females (Australian Bureau of Statistics (ABS) 1985 Population Survey), which may explain this result.

During the period 1985-1986, Sullivan et al. (1990), conducted a study of 300 nurses recovering from alcohol or other drug dependency. Seventy seven percent of these nurses reported alcohol as their primary drug of dependence, with 92% of subjects reporting experimentation with alcohol.

Subjects age, gender and types of drugs used were compared, and significant differences were found. Older females (>36) were more likely to use alcohol than males or younger women, who reported a higher incidence of narcotic and cannabis use. This study supports the need to focus on alcohol as a significant drug used by nurses, and highlights the relevance of age and gender as demographic indicators.

Corti, (1985) studied the alcohol consumption patterns of women in Perth, Western Australia. Findings indicate that more younger women were drinking at hazardous or harmful levels than previously reported in other population studies, also highlighting age as an important co-variable.

The ABS study on the alcohol consumption patterns in Western Australia during 1985 also show that younger women over-represent the number of drinking women in their medium drinker classification, consuming between 3.5 and 9 standard drinks per day. Similarly in NSW, Norton's 1983 study on the

changing patterns of alcohol consumption of Australian women demonstrated an increase in the percentage of women drinking on more than just rare occasions, and an increase in the amount of alcohol consumed on each occasion that it is drunk. She suggested that increasing numbers of women were putting themselves at risk of alcohol related damage.

In summary, the literature suggested that alcohol consumption may be affecting the nursing population of Western Australia, and highlighted the ambiguity surrounding the extent of the problem in other countries. Australian data is required before the profession can respond in an appropriate manner, with research as a basis for action.

## CHAPTER 3

### CONCEPTUAL FRAMEWORK

The two main concepts informing the frame of reference of this study are that drug use, or in this case alcohol use, is functional, and drug use is learned. The functional aspect is that alcohol use has real, or expected, consequences which are influential on whether or not, how often and under what circumstances an individual will choose to drink alcohol. These consequences might include feeling intoxicated, relaxed, sociable, or the avoidance of withdrawal symptoms. The learned aspect of alcohol use comes from peers, parents, the media and from experiencing the consequences associated with alcohol use.

The conceptual framework used for this study incorporated a model developed by Anthony Thorley, a Scottish psychiatrist, in 1985. The model describes alcohol related problems in three categories; problems related to intoxication, regular use or dependence. Thorley believes that anyone who uses alcohol may experience problems in any one of these three areas, and it is possible to experience problems in one area but not the other two, or in more than one area at different times.

Problems related to intoxication tend to result from the acute effects of alcohol consumption, often related to drinking in a "binge" pattern (Thorley, 1985). These

problems are often social in nature, such as violent behaviour, drunken driving or falls and accidents.

Problems related to regular use are those problems which result from continuous use of alcohol over a longer period of time. Relatively small amounts of alcohol may be consumed regularly, resulting in social problems such as financial difficulties and health problems such as memory impairment or gastric ulceration.

Problems related to dependence may occur as an individual begins to devote more and more time to avoiding any discomfort that is experienced by alcohol abstinence. Alcohol seeking and alcohol use take precedence to most other activities.

The frequency of alcohol consumption and quantity of alcohol consumed are associated with the alcohol related problems previously discussed. The choice to drink alcohol in certain quantities and at certain periods of time is based on numerous environmental influences, personality factors and the intrinsic properties of the drug chosen.

No person's alcohol use is totally positive or negative, there is always a balance of costs and benefits. This balance is the function of the interaction of the drug, the individual and the environment, as illustrated by the model developed and displayed as figure 1.

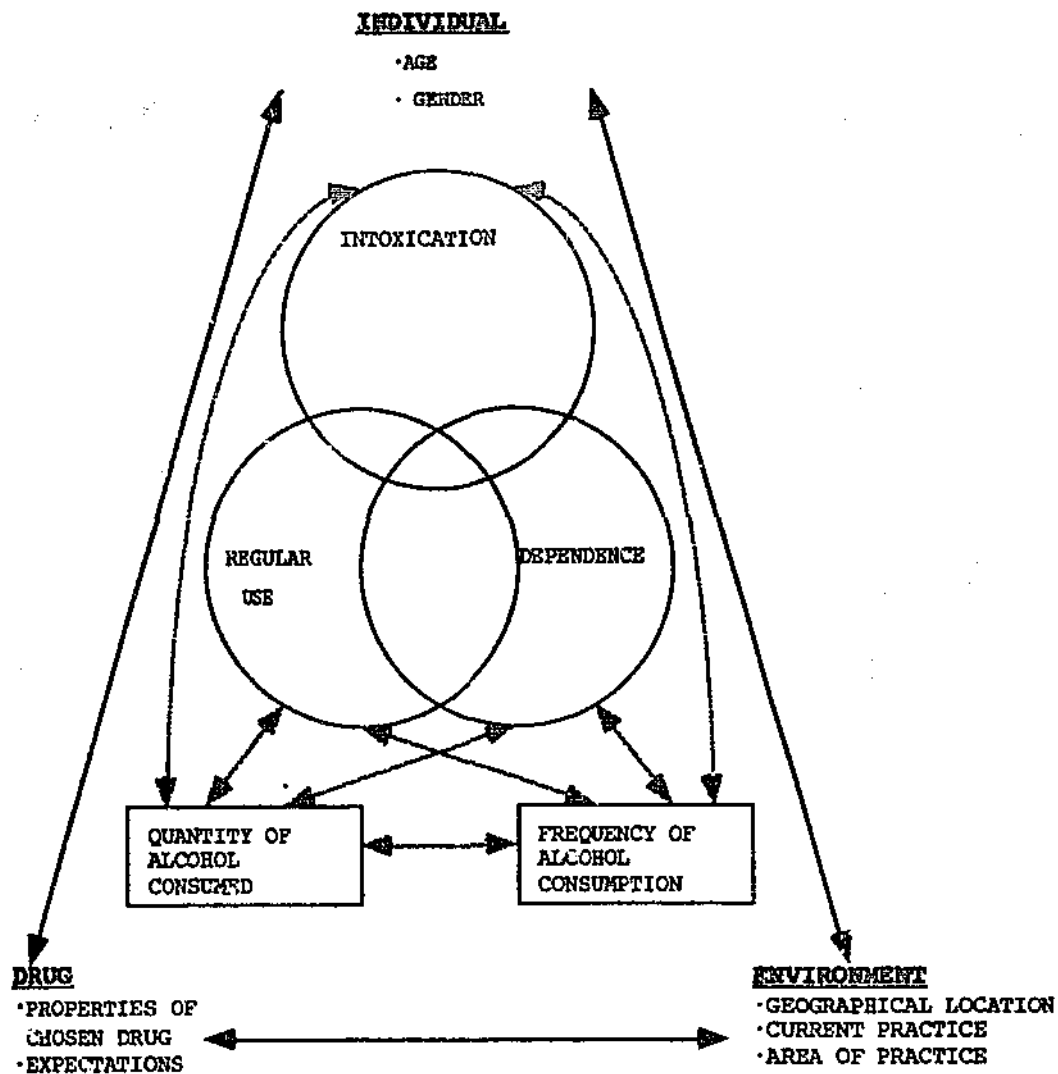


Figure 1. Conceptual model.

**Major Variables**

The major variables identified in this study were:

**Individual-** age and gender contribute to this

**Environment-** current practice, area of practice and geographical location have impact

**Alcohol-** the frequency and quantity that it is consumed, the pattern of consumption and the problems that occur due to this

## CHAPTER 4

### METHODOLOGY

#### **Research Design**

A descriptive correlational design using a quantitative approach was used. Frequency tables and histograms are used to illustrate reported quantity of alcohol consumed, frequency with which alcohol was consumed, potential risk associated with levels of consumption, and alcohol related problems that were most commonly experienced, including patterns of consumption contributing to the problem.

Relationships between nurses alcohol consumption and age, gender, geographical location of residence and practising status were examined using the inferential statistic of Chi square ( $\chi^2$ ).

This design was chosen as the study primarily seeks to describe the existence and extent of problematic alcohol consumption rather than drawing conclusions about the reasons for the problem. Data on relationships between alcohol consumption and demographic data will be useful in identifying potential risk factors.

## **Population and Sample**

A random sample of 500 nurses, currently registered with the Nurses Board of W.A. as a Registered General or Mental Health Nurse, was selected from the register held by the Nurses Board. This represents 2.23% of the population of 22,400 nurses eligible to practice at the end of November, 1993 (Nurses Board of W.A.). This sample size was chosen to provide power for the analysis and to provide an approximation of trends in the target population. The sample size also allows for poor response rates commonly associated with mailed questionnaires (Burns & Grove, 1987).

## **Data Collection Methods**

Data was collected using a structured questionnaire mailed to selected participants by the Nurses Board of W.A. Subjects were asked to spend a minute thinking about their alcohol consumption during the previous year, then complete the questionnaire and return it in the reply paid envelope provided.

The researcher had no access to the identity of the respondents. A four week period was allowed for returns. A postage paid envelope was included with the questionnaire to encourage response rate, and a covering letter with the details of the study and the principal supervisor's name and contact number was provided, attached as Appendix A. A



reminder letter planned to be sent two weeks after the initial mail out proved unnecessary. 286 questionnaires were returned, representing a 57.2% response rates. Burns & Grove, (1987), suggest that a response rate higher than 50% indicates a satisfactory representation of the sample studied.

### **Instrument**

The data collection tool consists of three sections, two of which are previously developed questionnaires by The National Heart Foundation (1983), and Dorricott, Harrison, Lenton & Ryder (1988).

The first section requests demographic data including age, gender, whether currently practising as a nurse, area of current practice and geographical location of residence. No identifying information is requested.

The second section is part of a questionnaire developed by the National Heart Foundation of Australia (1983) as part of their study on risk factors that may predispose an individual to cardiac problems. Alcohol consumption was identified as one of these factors and two questions about the quantity and frequency of alcohol consumption were asked. A tool to score responses is included, which categorises responses into health risk categories of low, intermediate, high and very high, included as Appendix C

The National Heart Foundation's alcohol appraisal chart for frequency and quantity of consumption for men and women was chosen due to it's current and previous usage in Western Australia in clinical settings, combined with the alcohol related problem questions. This could allow for comparison between nurses and people screened in health care settings using the same instrument. Use of the NHMRC definitions would not allow this comparison. The NHMRC have recognised the need for guidelines for safe and responsible levels of alcohol consumption, and in 1986 recommended that women's daily consumption should not exceed 20gm of absolute alcohol (2 standard drinks) per day or 140gm per week. This is half the level of daily consumption recommended as safe for men (40gm or four standard drinks per day or 280gm per week). It was suggested that daily consumption in excess of four standard drinks per day by women and in excess of six standard drinks per day by men constitutes "harmful" drinking, and consumption between two and four standard drinks for women and between four and six standard drinks for men constitutes "hazardous" drinking. These recommendations are in keeping with the risk categories used by the National Heart Foundation.

It is now viewed as important to differentiate between men and women when looking at alcohol related harm. Over the last ten to fifteen years there has been accumulating evidence that women are more susceptible to the physiological effects of alcohol than men (NHMRC, 1987).

Research indicates that women's vulnerability is due mainly to gender differences in metabolism, hormonal factors and in body weight and fat compositions (Norton & Batey, 1983).

There is no copyright restriction affecting the use of the instrument.

The third section consists of sixteen questions on the occurrence of specific alcohol related problems during the previous 12 months. The retrospective 12 month time period excludes nurses who have overcome previous problems and diminishes the problem of adequacy of recall for longer time periods, as discussed by Glasjo, Tucker, Hawkins & Vuchinich (1992). Their study concluded that subjects recall of alcohol consumption was enhanced by including questions related to significant life events or recent life changes. The chosen instrument does this by eliciting responses related to social situations, employment and relationships. Heather, Chick & Kreitman (1981) suggest that consumption questions alone may miss many problem drinkers, as a significant number of people who are apparently not drinking excessively, have in fact experienced symptoms or problems indicative of damage.

In a comparative study of the relative performance of the Michigan Alcoholism Screening Test (MAST), the Veterans Alcoholism Screening Test (VAST), the CAGE instrument and the DSM-III-R criteria for alcohol dependence as measured in the Composite International Diagnostic Interview, Magruder-Habib, Stevens & Alling (1993) found that while all these

instruments performed at acceptable levels when screening for dependence, people experiencing alcohol related problems in the earlier stages would be excluded. People consuming hazardous amounts of alcohol on a regular, but not daily, basis may still avoid detection with these instruments.

The instrument is based on Chick, Lloyd & Crombie's 1985 study of problem drinkers in medical wards of the Royal Edinburgh Hospital, Edinburgh. Patients were classified as problem drinkers if they acquired two or more points drawn from categories of consumption levels, current or previous medical problems, social problems including employment and dependence on alcohol. This was refined for use in W.A. by Dorricott, Harrison, Lenton & Ryder (1988). A new instrument was developed after previous experience with screening at a country regional and a metropolitan teaching hospital using the CAGE questionnaire suggested that many "early problem drinkers" (Spencer, 1988) were not being identified.

Refinement of the instrument took place following use by country and metropolitan hospitals.

Internal consistency of the instrument was tested using Cronbach's alpha and measured 0.82. There is no established reliability or validity, however in the areas where the instrument is used, it is considered effective by health service providers.

No validated questionnaire exists for use with nurses as subjects. The instrument identified problems in the areas of

intoxication, regular use and dependency, which reflect the conceptual framework used for the study.

A participant was considered to have a positive score on the questionnaire if they answered yes to two or more alcohol related problems, or their risk level was in the intermediate, high or very high categories.

The questionnaire is attached as Appendix B.

### **ETHICAL CONSIDERATIONS**

The study proposal was approved by the Edith Cowan University Committee for the Conduct of Ethical Research. This approval was a requirement of the Nurses Board of W.A. for their assistance with access to the Nurses register. Completion and return of the questionnaires indicated consent to participate in the study, and this was explained in the letter accompanying the questionnaire.

Anonymity of subjects was guaranteed, as the Nurses Board were responsible for selection of subjects and postage of questionnaires. The researcher had no access to the participants identity or address.

Data is stored in a locked cupboard within a locked study, with the key held by the researcher alone.

## RELIABILITY AND VALIDITY

Reliability and validity of the instrument chosen has not been established. No instrument exists that has been designed specifically for use with nurses.

Controversy surrounds the reliability of self reports, particularly related to drug and alcohol use.

Brown, Kranzler & Del Boca's 1992 study reports on factors affecting reliability and validity of self reports by alcohol and drug abuse inpatients. Data obtained from interviews, questionnaires and toxicological sampling found that discrepancies between interview and questionnaire data suggested a tendency to report more substance use in response to the questionnaire.

Babor, Stephens & Marlatt's (1987) review of the literature suggests that problem drinkers give reliable and accurate reports of their drinking practices and related events when information is obtained under certain circumstances. These circumstances are that respondents are sober, questions are limited to observable events and minimise subjective inferences, and no negative consequence exists for reporting drinking. They go on to say that as no practical alternative technology exists to measure drinking patterns and the surrounding environment, the assumption that self report is the only possible way of collecting data must be accepted. Whilst there were no assurances that the subjects of this

study were sober when completing questionnaires, the other two circumstances apply.

Some of the scepticism surrounding self report data comes from a general acceptance of the concept of denial, where an individual with an alcohol related problem refuses, or is unable, to recognise that the problem exists (Miller, 1983). This is an outdated mode of viewing alcohol problems, with it's concepts derived from the disease model. Miller suggests that the concept of denial has been used by therapists as a way of explaining their limited success with some individuals.

A number of studies support the reliability of self report data where that data can be verified from another source. Hyam's classic 1944 study entitled "Do they tell the truth", examines the cashing of war bonds, which was considered socially highly undesirable at the time. Much literature suggests a tendency for respondents to exaggerate the extent of socially desirable behaviour and minimise socially undesirable behaviour. Anonymity, however, changes this if respondents feel certain that the answers are not directly attributable to them.

Joseph Gfoerer's 1983 study on the influence of privacy on self reported drug use by youths supports this belief. Elaborate measures were taken to ensure privacy, with the drug use questions being sealed by the respondent in a non-identifiable envelope. Their responses, when compared with the same study design except for anonymity in 1979, showed

much higher levels of reported drug use when privacy was maintained.

This study's questionnaire was piloted using a convenience sample of 16 Registered Nurses. 4 of the respondents scored on the questionnaire as either experiencing two or more alcohol related problems, or drinking at intermediate to high risk levels for the development of health problems. This indicates a 25% positive score from the pilot group, higher than expected and higher than the actual study. The pilot showed the questionnaire to have the ability to screen for at risk alcohol consumption and the presence of alcohol related problems.

#### **METHODOLOGICAL LIMITATIONS**

There is evidence to suggest that during summer, alcohol consumption increases (Australian Bureau of Statistics, 1987). Similarly, alcohol consumption increases prior to Christmas for many people. Data collection for this study began in December, 1993, so reflects the patterns of alcohol consumption prior to Christmas and during summer. This may provide an unusually high level of consumption for some participants.

The researcher's assistance from the Nurses Board for sampling purposes may act as a deterrent for some problem drinkers, who doubt the guaranteed anonymity and fear disciplinary action if they report problematic drinking.



Issues related to no established reliability or validity of the instrument may also be a limitation. A comparison of the demographic characteristics of nurses in general and those returning questionnaires was not able to be done due to the general demographic information being unavailable. It is acknowledged that a 57% response rate may not ensure representativeness if systematic biases have influenced the return of questionnaires.

## **CHAPTER 5**

### **RESULTS**

#### **Data Analysis Procedures**

Data analyses were conducted using the Statistical Package for the Social Sciences (SPSS/PC+). Data was described using frequencies, histograms, bar charts and cross-tabulation tables, with chi square analysis applied to the nominal data.

This illustrates whether differences in the number of nurses who scored on the questionnaire and the different groups that they represent are merely chance fluctuations or statistically significant.

## Sample Description

Two hundred and eighty six subjects chose to participate in the study, representing 57.2% of the 500 questionnaires distributed.

Demographic data related to the participants (N=286) revealed that twenty seven (9.4%) of nurses were aged 20-29, 95 (33.2%) were 30-39, ninety nine (34.6%) were 40-49, forty four (15.4%) were 50-59 and 21 (7.3%) were older than 59. Age distributions are represented at figure 2.

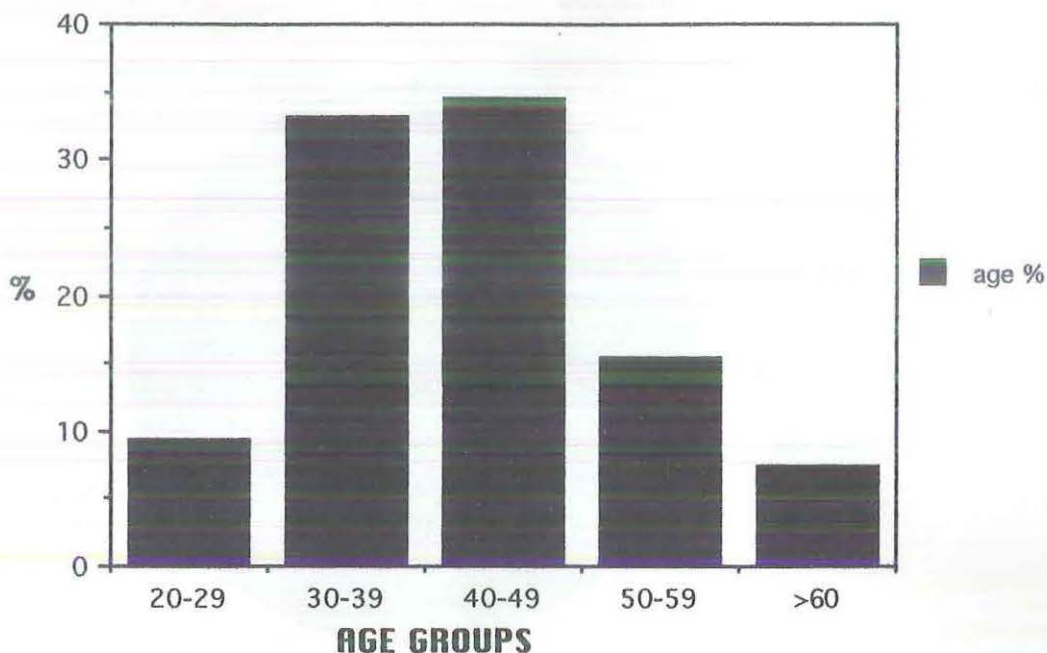


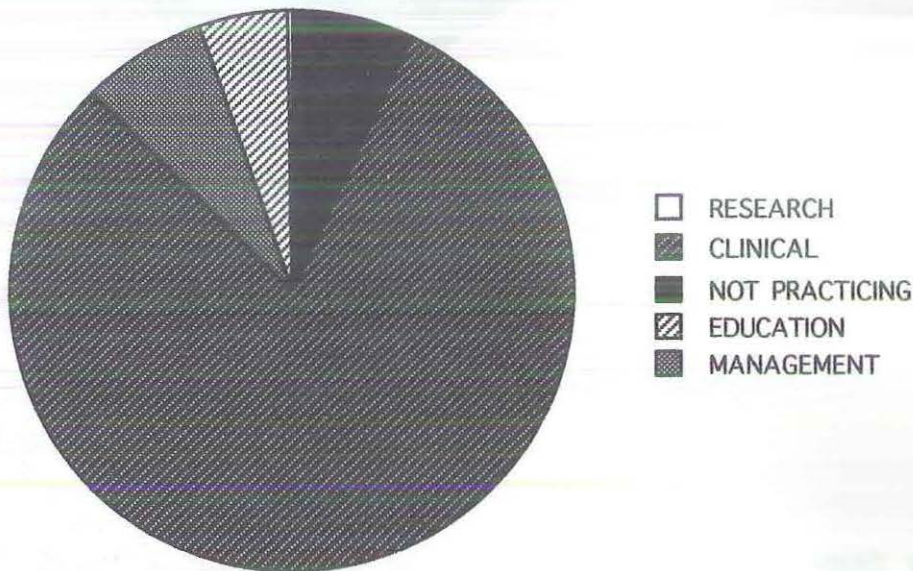
Figure 2. Age distribution of participants.

Twenty (7%) respondents were male and two hundred and sixty six (93%) female, with two hundred and sixty six (93%)

currently practicing as a nurse and the remaining twenty (7%) not currently practicing.

Sixty nine (24.1%) nurses were geographically located in country areas, and one hundred and ninety seven (68.9%) nurses were from the metropolitan area, with the twenty nurses not accounted for being those not practicing and so did not complete further demographic details.

The area of practice is represented at figure 3, with two hundred and thirty (80.4%) working in the clinical area, twenty one (7.3%) in management, fourteen (4.9%) in education and one (0.3%) nurse working in research.



**Figure 3. Area of Nursing practice.**

The location of practice is represented at figure 4, with one hundred and ninety eight (69.2%) nurses working within a

hospital, fifty seven (19.9%) working within the community and eleven (3.8%) working within an industry.

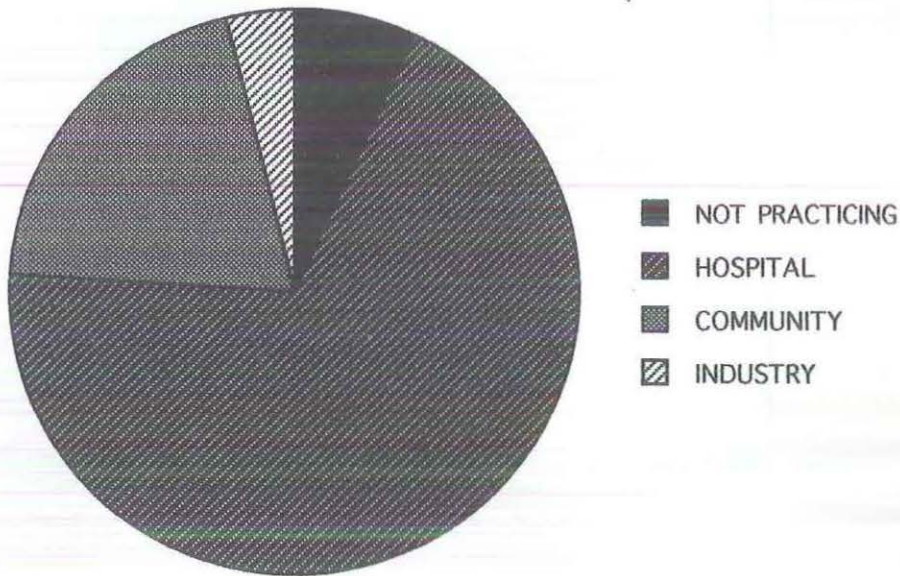


Figure 4. Location of Nursing practice.

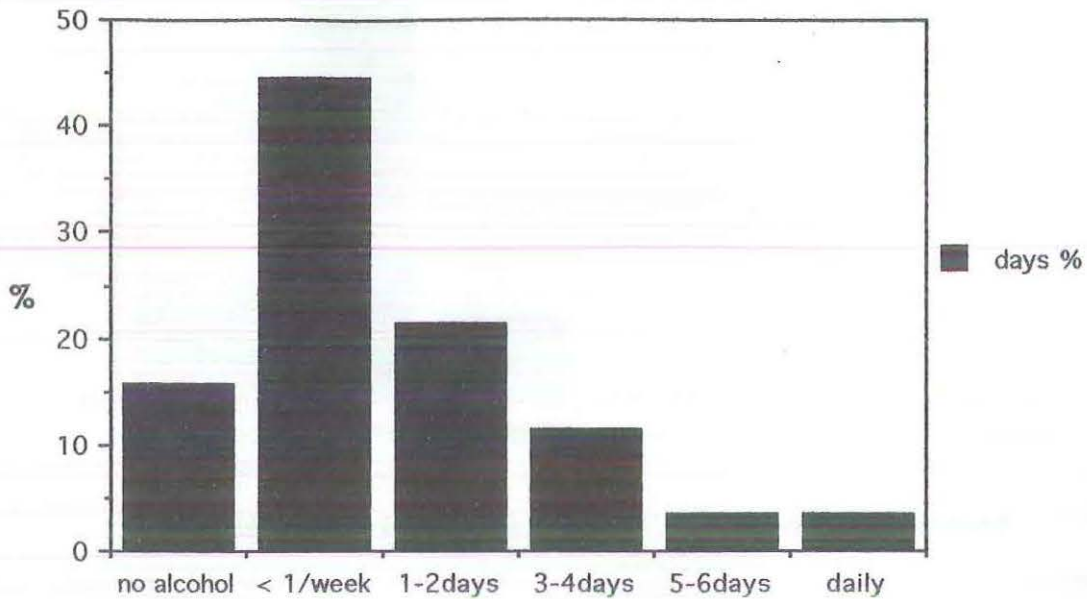
#### Data related to health risk

##### **Frequency of alcohol consumption**

Figure 5 depicts the number of days during a usual week when alcohol was consumed.

Forty five (15.7%) nurses drank no alcohol, one hundred and twenty seven (44.4%) nurses drank alcohol less than once per week, sixty one (21.3%) nurses drank alcohol on one or two days per week, thirty three (11.5%) nurses drank alcohol on three or four days per week, ten (3.5%) nurses drank alcohol

on five or six days per week and ten (3.5%) nurses drank alcohol daily.

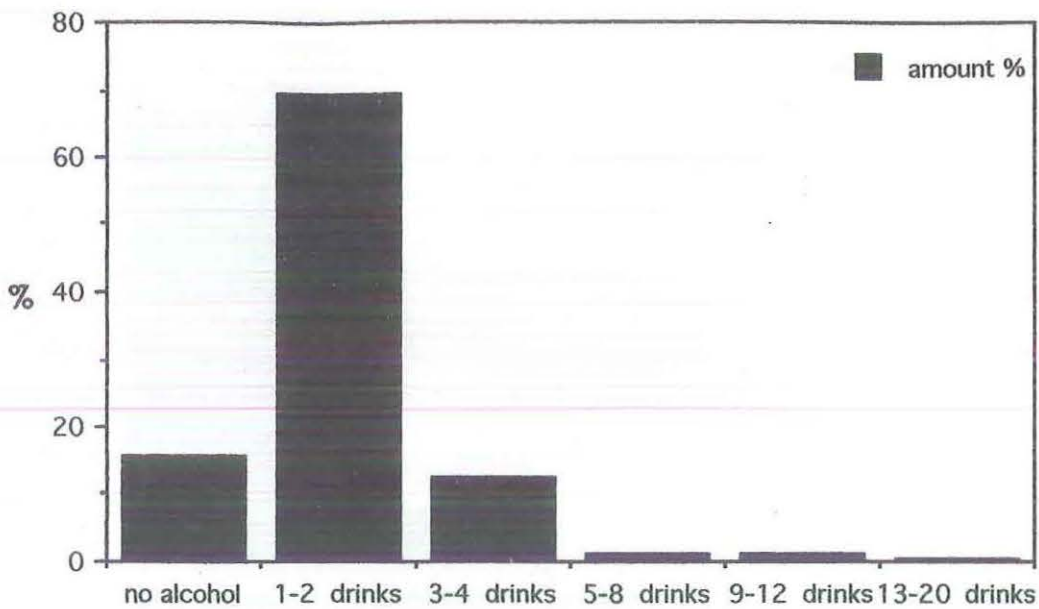


**Figure 5. Frequency of Alcohol Consumption.**

#### **Amount of alcohol consumed**

Figure 6 depicts the amount of alcohol consumed on days when the participant was drinking alcohol.

Forty five (15.7%) nurses drank no alcohol, one hundred and ninety eight (69.2%) nurses drank one to two drinks, thirty six (12.6%) nurses drank three to four drinks, three (1%) nurses drank five to eight drinks, three (1%) nurses drank nine to twelve drinks and one (0.3%) nurse drank thirteen to twenty drinks.



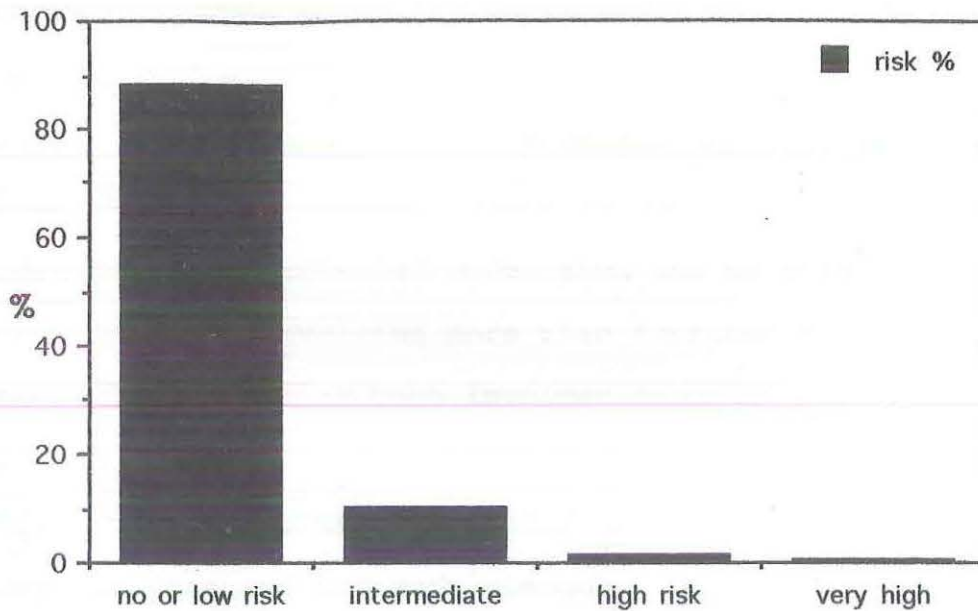
**Figure 6. Quantity of alcohol consumed.**

**Risk related to frequency and quantity of alcohol consumed**

Risk was calculated using the National Heart Foundation's alcohol appraisal chart for frequency and quantity of consumption for men and women, attached at Appendix C.

Figure 7 depicts the risk that nurses are placing themselves at due to their consumption of alcohol.

Two hundred and fifty two (88.1%) nurses drank at no or low risk levels, twenty nine (10.1%) nurses were drinking at intermediate risk levels, four (1.4%) nurses were drinking at high risk levels and one (0.3%) nurse was drinking at very high risk levels.



**Figure 7. Risk levels for reported alcohol consumption.**

#### **Data for alcohol related problems**

Sixteen questions about alcohol related problems were asked, with the affirmative responses described below.

All problems were experienced during the previous 12 months, and represent individuals who experienced two or more problems in order to score on the questionnaire.

Two (0.7%) nurses had suffered an ulcer related to alcohol use.

Six (2.1%) nurses had been absent from work due to drinking.

One (0.3%) nurse had been advised to cut down on alcohol drinking by their doctor.

One (0.3%) nurse had money worries due to, or made worse by, their drinking.

Six (2.1%) nurses had weight problems contributed to by their drinking.

Eleven (3.8%) nurses had undertaken ten or more episodes of binge drinking involving more than fourteen standard drinks.

One (0.3%) nurse had been involved in an accident related to alcohol drinking.

Three (1%) nurses had been asked to leave a public place as they had consumed too much alcohol.

Three (1%) nurses had problems at work related to drinking.

Two (0.7%) nurses had arguments at home related to drinking.

Eighteen (6.3%) nurses got into arguments more often when they had been drinking.

One (0.3%) nurse had trouble with the police in connection with drinking.

Five (1.7%) nurses had a drink in the morning to settle themselves or cure a hangover.

Eleven (3.8%) nurses noticed, after a night of drinking, that their hands tremble the next day.

Seven (2.4%) nurses had tried to cut down on their drinking but had difficulty in doing so.

Ten (3.5%) nurses had set themselves a limit of alcohol that they would consume and been unable to keep to it.



### **Alcohol related problems in Thorley's categories**

The following describes the grouping of alcohol related problems into Thorley's categories of intoxication, regular use and dependency.

Thirty four (11.7%) nurses experienced problems related to intoxication, nineteen (7.2%) nurses experienced problems related to regular use of alcohol and thirty three (11.4%) nurses experienced problems related to dependency.

### **Relationship between Questionnaire score and Demographic variables**

The relationship between those participants who scored on the questionnaire and the demographic variables were examined for significance at  $p < .05$ .

Age of the participant and problematic alcohol consumption were not significantly related, as shown by  $X^2 (4, N=286) = 4.92, p < .05$ . However the cross tabulation shows higher than expected frequencies for problematic alcohol consumption in the 20-29 and 30-39 age groups.

The relationship between gender and problematic alcohol consumption was not significant  $X^2 (1, N=286) = .202, p < .05$ .

Current practice as a nurse had no significant contribution to alcohol use  $\chi^2 (1, N=286) = .352, p < .05$ .

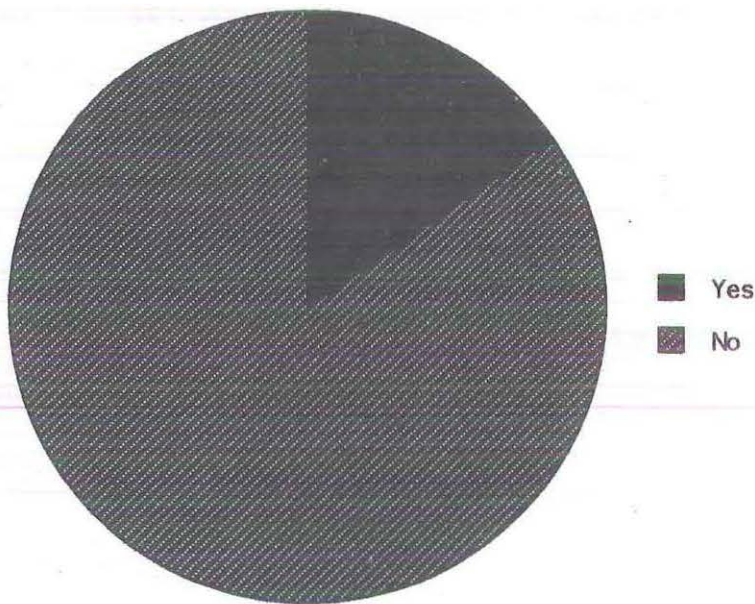
Living in country or metropolitan areas also had no significant relationship with alcohol use  $\chi^2 (2, N=286) = 5.106, p < .05$ . However the number of nurses living in country areas who reported problematic alcohol consumption was higher than the expected frequency on the cross tabulation.

No significant relationship was found between areas of nursing practice and alcohol consumption  $\chi^2 (4, N=286) = 8.099, p < .05$ . Those nurses employed in the area of education and reporting problematic alcohol consumption, were more numerous than expected on the cross tabulation.

Similarly, no significant relationship was found between location of nursing practice and alcohol use  $\chi^2 (3, N=286) = .483, p < .05$ .

**Data related to overall positive score for alcohol related problems and at risk drinking**

Overall, forty four (15.4%) nurses scored on the questionnaire as engaging in problematic alcohol consumption.



**Figure 8. Total Nurses with Problem or at risk.**

Age distributions related to score were as follows:

Seven (25.9%) nurses in the 20-29 years age group, seventeen (17.9%) nurses in the 30-39 years age group, ten (10.1%) nurses in the 40-49 years age group, seven (15.9%) nurses in the 50-59 years age group and three (14.3%) nurses older than 59 scored on the questionnaire.

Gender was divided as three (15%) males and forty one (15.4%) females with a positive score.

Forty (15%) nurses currently practicing, and four (20%) nurses not practicing scored in the affirmative.

Sixteen (23.2%) nurses from the country and twenty four (12.2%) nurses from the metropolitan area reported problematic drinking.

Distribution according to the area of practice were as follows:

Thirty two (13.9%) clinical nurses, three (14.3%) nurse managers, four (28.6%) nurse educators and one (100%) research nurse report problematic drinking.

Location of practice was broken down as follows:

Twenty nine (14.6%) nurses employed within a hospital, nine (15.8%) nurses working within the community and two (18.2%) nurses working within an industry scored on the questionnaire.

## CHAPTER 6.

### DISCUSSION AND CONCLUSIONS

The primary purpose of this study was to examine the self reported quantity and frequency of alcohol consumption by Registered nurses in Western Australia, and to investigate whether a particular pattern of alcohol consumption contributed to the development of alcohol related problems. The developed conceptual framework considers factors related to the individual, factors related to the environment such as geographical location and area of practice, and factors related to the properties of the alcohol consumed. Thorley's (1985) model of alcohol related problems is incorporated into this framework, providing a clear foundation that guides the factors chosen for investigation.

The findings of this study can be generalised to the Registered nursing population of Western Australia as it utilises a representative sample of nurses. Whilst some groups may appear under represented, this is a characteristic of the nursing population.

Findings suggest important implications that are worth the attention of all nurses, particularly those involved at the policy formation level.

The results of this study indicate that 15.4% of participants were drinking at hazardous or harmful levels,

or were experiencing alcohol related problems. If these results were generalised to the currently registered nursing population of Western Australia, then 3,450 nurses are currently engaging in problematic alcohol consumption. 10.1% of respondents were drinking at hazardous levels, which would represent 2,262 nurses from the register, and 1.7% of respondents were drinking at harmful levels, which would represent a further 380 nurses. These figures do not account for those nurses who did not score on the quantity or frequency questions but who were still experiencing alcohol related problems, which were a further 3.6% of nurses, equivalent to 806 from the total population of Registered nurses in W.A.

If the categories of medium and heavy drinkers used in the 1985 ABS study (11% of people) are compared with the risk groups of intermediate, high and very high used for this study (11.8% of nurses), the nurses are consuming more alcohol in a harmful or hazardous manner than the general population. The difference of 0.8% may not seem high, but given that 93% of nurses studied were women, the A.B.S. figures for female only consumption in the medium and heavy category is only 2.2% (n=10,900).

A study conducted by the National Centre for Research into the Prevention of Drug Abuse in 1987 entitled Alcohol Consumption Patterns of Women in Perth, W.A. found that 11.2% of women (n=154) studied drank at harmful or hazardous

levels. This is still lower than the 11.8% of nurses drinking at harmful or hazardous levels.

It would also appear that nurses experience more problems in the areas of intoxication and dependency than that of regular use. Thirty four nurses (11.7%) reported problems in the area of intoxication.

This may be related to the high levels of binge drinking reported by nurses in the younger age groups, which was also a finding of Corti et al's 1987 study. Problems related to dependency are most often related to a higher degree of damage and may be important to take into consideration when considering the range of intervention strategies that may be required. Thirty three nurses (11.4%) reported problems in the dependence areas.

#### Implications for Nursing Practice

The findings of this study have implications for nursing practice in the clinical, management, education and research areas. In the clinical area, acknowledgment must be made that nurses experiencing alcohol related problems may endanger the safety of their patients, their colleagues and themselves. Unexplained changes in work practices may indicate a wide variety of problems, but the observed changes and behaviours must be regularly documented by peers. Nurses are responsible for safe, competent patient

care and an unacknowledged alcohol problem makes it impossible for many nurses to meet these responsibilities. Nurse managers must formulate clear guidelines regarding the form any investigation into a suspected alcohol related problem will take, with the goal always being support and assistance for the nurse to obtain professional intervention and return to employment.

Nurse educators must incorporate addictions education into all undergraduate nursing programmes, and bring into the open the problem of nurses alcohol consumption. While this aspect of human behaviour remains unaddressed at this level, beginning practitioners will remain uninformed and therefore unable to respond to their patients and colleagues experiencing alcohol related problems.

Nurse researchers must also participate in conducting further local research in this area, bringing nurses substance use out into the open.

#### Implications for Policy Development

As a minimum standard, all hospitals and community agencies must develop policy on nurses drug and alcohol use. These policies must be widely circulated, with all nurses made aware of their organisation's policy.

The Nurses Registration Board of WA must also further develop their policy on dealing with professional issues



related to alcohol or drug use, including intervention and rehabilitation into the policy.

The Australian Nurses Federation must also investigate how they can best support their members who may be involved in disciplinary procedures related to their alcohol or drug use, and publish a position statement on how they will attempt to support their membership.

### Direction for Future Research

Based on the findings of this study, it is recommended that future research should be directed toward:

- \* the variation of substance use according to nursing specialty
- \* the relationship between isolation and alcohol consumption
- \* the use of prescribed and illicit drugs by nurses
- \* the factors that contribute to nurses alcohol and other drug consumption
- \* the experience of nurses with alcohol or other drug problems using qualitative methodology
- \* replication of this study using a larger sample of nurses

More research and discourse within the nursing profession is needed to assist in developing effective programmes of prevention, intervention and rehabilitation.

### **Summary**

In conclusion, the results of this study indicate that a large number of nurses in Western Australia are drinking alcohol at harmful or hazardous levels, and some are experiencing alcohol related problems, particularly in the areas of intoxication and dependence.

Relationships between the demographic data and problematic alcohol consumption were statistically not significant. Some interesting figures in the areas of age, geographical location of residence and area of practice were shown, but no statistically significant conclusions can be drawn from them. The common trend evident in the demographic groups that showed problematic alcohol consumption patterns was isolation, either geographically or professionally. A further study on nurses working in isolation may be required to investigate this trend further.

This study represents the first attempt in Australia to quantify the alcohol consumption patterns of nurses and describe the problems that alcohol consumption presents for some members of the nursing profession. It is hoped that the profession, with research as a basis for action, can move toward the development of identification, intervention and support strategies that are acceptable and accessible.

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**APPENDIX A.**



Dear Colleague,

I am writing to inform you of a research project I am undertaking and to request your participation by completing the Questionnaire enclosed.

I am a Registered nurse completing an Honours thesis as part of the Bachelor of Nursing programme conducted through Edith Cowan University. My supervisor for this study is Mrs Bronwyn Jones, who can be contacted at the Churchlands campus of the above university.

The study is titled Self-reported patterns of alcohol consumption by Registered Nurses in Western Australia and seeks to establish whether the level of consumption of alcohol by nurses in Western Australia is of significance. If you choose to complete the enclosed questionnaire, your return by means of the envelope provided indicates your consent to participate in the study.

Data will be collected by means of the enclosed questionnaire. Your name was selected at random from the register held by the Nurses Board of W.A, to allow the findings to be generalised to the population of nurses in Western Australia. The Nurses Board are posting the

Questionnaires to ensure you remain anonymous, so I have no way of identifying you should you choose to participate. The Nurses Board are providing access to the register for sampling purposes only, and are not involved in the study in any other way. Your returned questionnaire will be stored in a locked cabinet that only I have access to.

If you have any further questions don't hesitate to contact me at the above address. On completion of the study a copy of the results will be forwarded to the Nurses Board of W.A, the Australian Nursing Federation as well as any other interested nurses or nursing organisations.

Thank you in advance for your contribution to my research.

Yours Sincerely

Ms Kathie Waters

**APPENDIX B.**

**DEMOGRAPHIC DETAILS.**

**PART ONE:**

1. Please indicate your age in years by ticking the appropriate box.

20-29 [ ] 30-39 [ ] 40-49 [ ] 50-59 [ ] Older [ ]

2. Please circle: Male M Female F

3. Are you currently practicing as a nurse?

(circle your response)

YES NO

4. Please indicate with a tick the area of Nursing in which you are currently practicing:

(A) Country [ ]

Metropolitan [ ]

(B) Clinical [ ]

Management [ ]

Education [ ]

Research [ ]

(C) Hospital [ ]

Community [ ]

Industry [ ]

**PART TWO:**

**NATIONAL HEART FOUNDATION HEALTH RISK ASSESSMENT.**

Please tick the box that best describes your use of alcohol.

On how many days a week do you usually drink alcohol?

- |                       |     |
|-----------------------|-----|
| I don't drink alcohol | [ ] |
| Less than once a week | [ ] |
| On 1 or 2 days a week | [ ] |
| On 3 or 4 days a week | [ ] |
| On 5 or 6 days a week | [ ] |
| Every day             | [ ] |

On days when you drink alcohol, how many drinks do you usually have?

( A drink refers to a standard drink containing 10 gm of alcohol i.e. a middy of beer, a nip of spirits, a small glass of wine or a small sherry or port).

- |                         |     |
|-------------------------|-----|
| I don't drink alcohol   | [ ] |
| 1 or 2 drinks           | [ ] |
| 3 or 4 drinks           | [ ] |
| 5 to 8 drinks           | [ ] |
| 9 to 12 drinks          | [ ] |
| 13 to 20 drinks         | [ ] |
| More than twenty drinks | [ ] |

**PART THREE:**

**ALCOHOL RELATED PROBLEM ASSESSMENT (Ryder et al,1988).**

Please answer the following questions by placing a circle around the appropriate response at the end of each question.

During the last 12 months:-

1. Have you suffered from an ulcer that your Doctor said may be related to your drinking?  
YES NO
2. Have you been absent from work more than once because of your drinking?  
YES NO
3. Has your Doctor advised you to cut down on your drinking?  
YES NO
4. Have you had any money worries that have been due to, or made worse, because of your drinking?  
YES NO
5. Have you had any weight problems that were contributed to by your drinking?  
YES NO



6. On any ten occasions, not necessarily consecutively, has your daily consumption been greater than 14 middies of beer, 14 glasses of wine, 7 double measures of spirits, or the equivalent?

YES NO

7. Have you been in an accident at work or on the road that was at least partly related to your drinking?

YES NO

8. Have you been asked to leave a place (a party, hotel or club ) because you had too much to drink?

YES NO

9. Have you had any problems at work as a result of your drinking?

YES NO

10. Have there been arguments at home related to your drinking?

YES NO

11. Have you got into arguments more often if you have had a drink?

YES NO

12. Have you had any trouble with the police in connection with your drinking?

YES NO

13. Have you had a drink in the morning to  
cure a hangover or settle yourself?

YES NO

14. Have you noticed, after a night of  
drinking, that your hands tremble  
the next day?

YES NO

15. Have you tried to cut down on your  
drinking and found some difficulty  
in doing this?

YES NO

16. Have you set yourself a limit of  
alcohol and been totally unable to  
keep to that limit?

YES NO

APPENDIX C

Alcohol appraisal chart for frequency and quantity of consumption for men and women.

MALE

Drinks

| 1-2 | 3-4 | 5-8 | 9-12 | 13-20 | >20 |                    |
|-----|-----|-----|------|-------|-----|--------------------|
| 1   | 1   | 1   | 1    | 2     | 3   | < than 1 per week  |
| 1   | 1   | 1   | 1    | 2     | 3   | 1 or 2 days a week |
| 1   | 1   | 1   | 2    | 3     | 4   | 3 or 4 days a week |
| 1   | 1   | 2   | 3    | 4     | 4   | 5 or 6 days a week |
| 1   | 1   | 2   | 3    | 4     | 4   | Every day          |

FEMALE

Drinks

| 1-2 | 3-4 | 5-8 | 9-12 | 13-20 | >20 |                    |
|-----|-----|-----|------|-------|-----|--------------------|
| 1   | 1   | 1   | 2    | 3     | 4   | < than 1 per week  |
| 1   | 1   | 1   | 2    | 3     | 4   | 1 or 2 days a week |
| 1   | 1   | 2   | 3    | 4     | 4   | 3 or 4 days a week |
| 1   | 2   | 3   | 4    | 4     | 4   | 5 or 6 days a week |
| 2   | 2   | 3   | 4    | 4     | 4   | Every day          |

FREQUENCY AND QUANTITY SCORING GUIDE:

SCORE 1 -Indicates no or low health risk 1=L(LOW)

SCORE 2 -Indicates intermediate health risk

2=I (INTERMEDIATE)

SCORE 3 -Indicates high health risk 3=H(HIGH)

SCORE 4 -Indicates very high health risk 4=VH(VERY HIGH)