

Examining the Attitudes of Non-Psychiatric Practicing Healthcare Workers Towards Patients With Alcohol Problems in General Hospital Setting

Ho Teck Tan¹, Yit Shiang Lui² , Lai Huat Peh³, Rasaiah Munidasa Winslow⁴ and Song Guo⁵

¹Department of Psychological Medicine, National University Hospital, Singapore. ²Department of Psychological Medicine, National University Health System, Singapore. ³Department of Psychological Medicine, Changi General Hospital, Singapore. ⁴Yong Loo Lin School of Medicine, National University of Singapore, Singapore. ⁵National Addictions Management Service, Institute of Mental Health, Singapore.

Substance Abuse: Research and Treatment
Volume 16: 1–12
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DOI: 10.1177/11782218211065755



ABSTRACT

BACKGROUND AND OBJECTIVES: Problematic alcohol-use affect the physical and mental well-being of hospitalised individuals and may receive screening and brief-intervention during treatment. Non-psychiatric doctors and nurses might respond inadequately due to negative attitudes and beliefs. This study aimed to examine these attitudes of non-psychiatric workers in the medical and surgical wards.

METHODS: A total of 457 doctors and 1643 nurses were recruited from the medical, surgical and orthopaedic disciplines over a period of 4 months. Three questionnaires were administered: demographics, Alcohol & Alcohol-Problems Perceptions Questionnaire (AAPPQ) and Staff Perception of Alcohol Treatment Resources.

RESULTS: About 128 doctors and 785 nurses responded. Around 75.5% doctors and 51.9% nurses endorsed role-legitimacy in the AAPPQ. Both the doctor (86.7%) and nurse (77.6%) groups agreed on the importance to initiate intervention for patients with problematic alcohol-use in daily work. Both groups were sceptical and negative towards these patients endorsing low-level role-adequacy (41.2%), role-support (36.9%), motivation (36.5%), task-specific self-esteem (25.1) as well as work satisfaction (20.5%).

CONCLUSION/DISCUSSION: Doctors and nurses demonstrated low levels of therapeutic commitments towards patients with problematic alcohol-use thereby necessitating the introduction of in-house programmes to educate, empower and emphasise the importance of therapeutic contact with patients for alcohol intervention.

SCIENTIFIC SIGNIFICANCE: The prompt identification and treatment of patients with alcohol problems are contingent on the workers' attitudes towards them. This study's results should spark a nation-wide interest to improve the training and recognition of such patients and providing adequate educational resources.

KEYWORDS: Attitudes, healthcare workers, alcohol use disorders, general hospital, intervention

RECEIVED: January 28, 2021. **ACCEPTED:** November 10, 2021.

TYPE: Original Research

FUNDING: The author(s) received no financial support for the research, authorship, and/or publication of this article.

DECLARATION OF CONFLICTING INTERESTS: The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

CORRESPONDING AUTHOR: Yit Shiang Lui, Department of Psychological Medicine, National University Hospital, 1E Kent Ridge Road, Singapore 119228, Singapore. Email: yit_shiang_lui@nuhs.edu.sg

Background and Objectives

The 2016 Singapore Mental Health Study (SMHS) reported the lifetime prevalence of alcohol-use disorder (AUD) in Singaporeans, including the diagnoses of alcohol-dependence and alcohol-abuse using Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR), to have increased from 3.6% in 2010 to 4.6% in 2016.¹ In contrast, findings from the World Health Organisation (WHO) world mental health survey suggested that the lifetime prevalence of AUD was 8.6%, with high-income countries having higher rates of AUD compared to low-income countries.² The SMHS also reported that 97% of people with alcohol dependence and 80.6% of people with alcohol abuse did not seek any treatment in the preceding 12 months.³ This problem is not unique in Singapore. In a cross-sectional study of 6 European countries, 80% of people

with AUD did not seek any treatment in the last 12 months.⁴ In Netherlands, 7% of people and alcohol abuse and 37% with alcohol dependence sought help⁵ while only 8% of people with AUD sought help in the US.⁶ The lack of problem awareness and fear of social stigma are often the reasons cited for people not seeking treatment for alcohol use disorders (AUD).⁴

AUD have serious adverse effects on the physical and mental wellbeing of patients, and patients admitted with alcohol related conditions have longer lengths of stay in hospital due to complex multi-morbidities, poor social circumstances and clinical complications during admission,⁷ requiring the intervention of interdisciplinary teams of healthcare workers (HCW),⁸ thus placing a disproportionate impact and cost on health care systems.⁹ Patients admitted with alcohol-related conditions were also more likely to present to the emergency department



and be readmitted in the subsequent 24 months.¹⁰ Adequate diagnosis and treatment of patients with AUD shorten the length of admission and prevent need for future alcohol related admissions.¹¹ One-third of patients with AUD who had been hospitalised in the past 12 months had a favourable drinking outcome.¹² Patients admitted to hospitals with acute alcohol-related problems are often cognisant of their drinking problems posing a threat to their physical health and their motivation to change and seek help remained high whilst inpatient.^{13,14} Williams et al¹⁵ also concluded that intervention success depended on prompt counselling of patients with AUD. The inpatient setting therefore has a crucial role in identifying, treating and referring patients with AUD.

The attitudes, beliefs, and experiences towards alcohol amongst HCWs as well as their own personal alcohol consumption determined the interaction and care towards patients.¹⁶ Perceptions, attitudes and feelings towards alcohol-users by HCWs could either enhance or destroy the therapeutic relationship as well as influence the quality of treatment.¹⁷ A multi-centre study done in Europe suggested that HCWs perceived caring for such patients as unpleasant and unrewarding.¹⁸ Another study showed that nurses tended to have negative perceptions towards alcohol users.¹⁹ A systematic-review²⁰ suggested that most HCWs tended to stigmatise against patients with substance problems except mental-health professionals and primary care physicians. Co-occurring substance-use disorders with mental-health problems would be complex challenges for the mental-health, social and administrative services.^{21,22}

There are also fears amongst HCW that interaction and rapport with patients would be adversely affected if alcohol-screening questions were administered and that patients with AUD would not be receptive to any alcohol-related interventions.²³ In addition, the reluctance to diagnose AUD as a medical condition, inadequate knowledge, feeling ill-equipped to diagnose AUD or fearing patients with AUD who may be hostile towards them could also lead to an under-identification of cases.²⁴⁻²⁶ Indeed, a study by a Singapore hospital estimated the rate of identification of AUD by HCW to be only 23.4%²⁷ in contrast to other studies which have reported the rate of identification of patients with AUD by HCW to be between 7% and 70%.²⁸

There were no previous studies in Singapore that examined HCWs' attitudes and perceptions towards patients with problematic alcohol-use although AUD remained the most stigmatising condition in the country.²⁹ There was a general perception that people with AUD were harmful or dangerous and there were people expressing their desire for social distancing from such a person.²⁹ This group of patients with complex needs would have recurrent re-admissions. There was considerable stigma amongst non-psychiatric workers towards these alcohol-using patients in Singapore.³⁰ This cross-sectional survey had aimed to accurately describe the attitudes of non-psychiatric

doctors and nurses in both inpatient medical and surgical settings towards their patients, so as to recommend future directions in providing integrated and improved care.

Methods

The site represented a restructured hospital with a capacity of 790 beds at time of survey. The survey was a cross-sectional observational study using convenience sampling of a cohort. Only doctors and nurses were recruited from selected medical, surgical and orthopaedic disciplines over a period of 4 months in the beginning of year. These are healthcare professionals directly responsible for care of identified patients who were recruited for another alcohol-prevalence study. Staff from the prison ward, the psychiatry ward and the research ward were excluded. There was no eligibility requirement hence the cohort represented the demographic of the healthcare professionals at that time. Their consents were explicitly obtained before provision of pen-and-paper questionnaires. The anonymised respondents were informed to return the scripts at any time into sealed boxes during the 4 months of study. At the time of recruitment, the Human Resource Department had estimated the total number of staffs employed to be about 457 for doctors and about 1643 for nurses in the hospital regardless of areas of deployment including the excluded wards. A total number of 913 responses were collected with 128 doctors and 785 nurses responding to the survey. Owing to the large sample size, the incomplete data were considered negligible for analysis.

Three types of questionnaires were administered. The first was demographic collection to define the sample characteristics. Variables examined included: age (from birth date), gender, race and ethnicity, marital statuses, disciplines of practice, job title (at the time of survey), work experience attained in number of years, their highest level of medical training for both doctors and nurses, their extent of training in handling alcohol-related conditions, the number of patients with alcohol-related conditions managed by them per week, the total number of patients managed by them per week and their personal alcohol consumption. As the questionnaires were entirely anonymised, incomplete data were not tracked.

The second was the Alcohol and Alcohol Problems Perceptions Questionnaire (AAPPQ). This was developed during the Maudsley Alcohol Pilot Project and had demonstrated good validity and reliability in measuring attitudes of staff towards working with alcohol drinkers.^{31,32} It consisted of 30 statements requiring a response along the 7-item Likert scale which ranged from Strongly Agree to Strongly Disagree with a Neutral choice. AAPPQ examined 6 concepts namely Role Legitimacy, Role Support, Role Adequacy, the Task-specific Self-esteem, one's work Satisfaction and Motivation as described by Shaw et al.³³ It measured therapeutic attitudes and commitment determined by the 6 subcategories. Shaw et al had suggested that the presence of these factors would

enhance their motivation to work with problem drinkers, their expectations of satisfaction, and their professional self-esteem when engaging them in a therapeutic activity.⁵⁴ The domains of Role Adequacy, Role Legitimacy and Role Support described the role security. Other domains of Motivation, task-specific Self-Esteem and Satisfaction described therapeutic commitment. To recapitulate the attitude questionnaire in greater details, it contained the 6 domains which measure:

| | |
|--|--|
| Role Adequacy (Statements 1-7) | Respondents' feelings about adequacy of their knowledge and skills in working with patients with AUD. |
| Role Legitimacy (Statements 8-11) | Respondents' feelings of legitimacy in working with such patients. |
| Role Support (Statements 12-14) | The extent to which respondents felt supported in their work with such patients. |
| Motivation (Statements 15-19) | The respondents' motivation (or willingness) to work with their patients. |
| Task-specific Self-esteem (statements 20-25) | Their self-esteem in the specific task of working with such patients. |
| Satisfaction (Statements 26-30) | Their expectation of work satisfaction with these patients. |

The use of AAPPQ was preferred over the short AAPPQ in this study even though the short version consisted only 10 questions and is highly correlated with the AAPPQ,⁵² due to omission of questions addressing role support in the short AAPPQ. The authors were keen to find out the level of role support amongst HCW in this hospital as previous findings have indicated that the level of support provided by colleagues were the most important influences on attitudes.³⁴

There was no singular absolute method of quantitatively analysing the AAPPQ. The analysis was conducted in a way to present the findings in a succinct and easily-understood presentation, such that an arbitrary numerical value was attached to each response. In this way, '1' represented Strongly Agree and '7' represented Strongly Disagree. This would allow data manipulation and analysis. The score for each factor is taken from the mean of the various corresponding items from the AAPPQ that determined a particular factor analysis. The score for each item is in turn derived from the cumulative percentages of the doctors or nurses who answered 'strongly agree', 'agree' and 'somewhat agree'. Responses from 'somewhat disagree' to 'strongly disagree' were derived as well for some concepts utilising reverse response. The total mean score at the end represents the percentage of agreement (or disagreement) from both doctors and nurses for that factor. Such a conversion of a Likert scale from a continuous scale to a categorical one might

influence the validity. However, the study's aim to quantify the baseline attitudes of the studied sample would not be compromised, as inherently the percentage of the respondents answering a Likert item would still be represented accurately.

The third survey was the Staff Perception of Alcohol Treatment Resources (SPATR) which was a 10-statement form that would require dichotomous responses of either true or false to ascertain the respondent's prevailing knowledge of the current status of healthcare resources being used on AUD. This examined their beliefs about the access and the ease of utilising screening tools and counselling materials for patients with such problem. It also asked the respondents about their perception of the availability of support for patients with AUD in the community and questioned the presence of training for staff if any.

Data imputation and data analysis was done on the Microsoft Excel software with Student's *T*-test analysis seeking any statistical significance on the differences at *P*-value of <.05. A descriptive approach was taken for all observation. This study was conducted in compliance with the protocol following GCP (Good Clinical Practice) and as per the requirements from Institutional Review Board (IRB) in Singapore. STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines were referenced to during the study design.

Results

Group characteristics

About 913 staff responded with 128 doctors and 785 nurses (see Tables 1 and 2). There were more males in the doctor group (61.7%) but there were more females in the nurse group (95.9%). Both groups were made up of mainly ethnic Chinese. A good proportion of nurses (17.1%) came from overseas like Philippines, Myanmar, or India. 36.7% of doctors worked in the medical discipline and an equal number (35.9%) came from the surgical and orthopaedic disciplines. Half of the nurses surveyed came from the surgical and orthopaedic disciplines. A majority in both groups reported their working experience to be about 5 years or less. 95.3% of doctors and 80.8% of nurses saw less than 5 alcoholic patients in a week. 41.4% of doctors saw more than 40 patients in a week, and 51% of nurses saw less than 10 patients a week. Most nurses did not consume alcohol (85%), which contrasted with almost half of the doctors doing so (46.9%). 73.8% of nurses reported not receiving any form of training dealing with alcohol-related conditions with 35.9% of doctors reported similarly so. 58.6% of doctors received training during their undergraduate days as part of the medical school's curriculum.

Alcohol and Alcohol Problems Perception Questionnaire

The general discovery from this survey was that both doctors and nurses' groups did not feel adequate or supported enough in working with patients with AUD in the course of their work

Table 1. Sample characteristics.

| | | DOCTORS (%) | NURSES (%) | TOTAL (%) | P-VALUE |
|---|---------------------|-------------|------------|------------|---------|
| Gender (9) | Total | 124 (96.9) | 780 (99.4) | 904 (99) | <.01 |
| | Male | 79 (61.7) | 27 (3.4) | 106 (11.6) | |
| | Female | 45 (35.2) | 753 (95.9) | 798 (87.4) | |
| Marital status (7) | Total | 124 (96.9) | 782 (99.6) | 906 (99.2) | .081 |
| | Single | 55 (43) | 431 (55) | 486 (53.2) | |
| | Married | 69 (53.9) | 337 (42.9) | 406 (44.5) | |
| | Separated | 0 | 3 (0.4) | 3 (0.3) | |
| | Divorced | 0 | 9 (1.1) | 9 (1) | |
| | Widowed | 0 | 2 (0.3) | 2 (0.2) | |
| Race (13) | Total | 124 (96.9) | 776 (98.9) | 900 (98.6) | <.01 |
| | Chinese | 111 (86.7) | 374 (47.6) | 485 (53.1) | |
| | Malay | 2 (1.6) | 171 (21.8) | 173 (18.9) | |
| | Indian | 7 (5.5) | 97 (12.4) | 104 (11.4) | |
| | Others | 4 (3.1) | 134 (17.1) | 138 (15.1) | |
| Discipline (23) | Total | 124 (96.9) | 766 (97.6) | 890 (97.5) | <.01 |
| | Gastroenterology | 6 (4.7) | 56 (7.1) | 62 (6.8) | |
| | General medicine | 47 (36.7) | 127 (16.2) | 174 (19.1) | |
| | General surgery | 14 (10.9) | 91 (11.6) | 105 (11.5) | |
| | Orthopaedic surgery | 11 (8.6) | 110 (14) | 121 (13.3) | |
| | Others | 46 (35.9) | 382 (48.7) | 428 (46.9) | |
| Working experience (11) | Total | 124 (96.9) | 778 (99.1) | 902 (98.8) | .006 |
| | <5 years | 51 (39.8) | 394 (50.2) | 445 (48.7) | |
| | 5-10 years | 34 (26.6) | 186 (23.7) | 220 (24.1) | |
| | 11-20 years | 27 (21.1) | 90 (11.5) | 117 (12.8) | |
| | >20 years | 12 (9.4) | 108 (13.8) | 120 (13.1) | |
| Prior training in AUD intervention (29) | Total | 123 (96.1) | 761 (96.9) | 884 (96.8) | <.01 |
| | No training | 46 (35.9) | 579 (73.8) | 625 (68.5) | |
| | MBBS/Diploma | 75 (58.6) | 168 (21.4) | 243 (26.6) | |
| | Workshops | 0 | 9 (1.1) | 9 (1) | |
| | Experience | 1 (0.8) | 3 (0.4) | 4 (0.4) | |
| | Others | 1 (0.8) | 2 (0.3) | 3 (0.3) | |
| No. of alcohol patients per week (82) | Total | 124 (96.9) | 707 (90) | 831 (91) | .007 |
| | <5 | 122 (95.3) | 634 (80.8) | 756 (82.8) | |
| | 5-10 | 2 (1.6) | 53 (6.8) | 55 (6) | |
| | >5 | 0 | 20 (2.5) | 20 (2.2) | |

(Continued)

Table 1. (Continued)

| | | DOCTORS (%) | NURSES (%) | TOTAL (%) | P-VALUE |
|--------------------------------------|-------|-------------|------------|------------|---------|
| Total no. of patients per week (103) | Total | 123 (96.1) | 687 (87.5) | 810 (88.7) | <.01 |
| | <10 | 32 (25) | 400 (51) | 432 (47.3) | |
| | 10-20 | 7 (5.5) | 84 (10.7) | 91 (10) | |
| | 21-30 | 16 (12.5) | 30 (3.8) | 46 (5) | |
| | 31-40 | 15 (11.7) | 31 (3.9) | 46 (5) | |
| | >40 | 53 (41.4) | 142 (18.1) | 195 (21.4) | |
| Personal alcohol consumption (27) | Total | 124 (96.9) | 762 (97.1) | 886 (97) | <.01 |
| | Yes | 60 (46.9) | 95 (12.1) | 155 (17) | |
| | No | 64 (50) | 667 (85) | 731 (80.1) | |

Table 2. Qualifications may be described by the staff's respective job titles.

| DOCTORS | | |
|----------------|---------------------------------|------------|
| Job title | Total=N (%) | 124 (96.9) |
| | Medical officer (MO) | 56 (43.8) |
| | Registrar/associate consultant | 29 (22.7) |
| | Consultant | 21 (16.4) |
| | Senior consultant | 18 (14.1) |
| Qualifications | Total=N (%) | 124 (96.9) |
| | Bachelor's degree | 66 (51.6) |
| | Master's degree | 49 (38.3) |
| | PhD-MD | 9 (7) |
| Nurses | | |
| Job title | Total=N (%) | 775 (98.7) |
| | Enrolled nurse | 256 (32.6) |
| | Staff nurse | 325 (41.4) |
| | Senior staff nurse | 149 (19) |
| | Nursing officer/nurse clinician | 45 (5.7) |
| Qualifications | Total=N (%) | 753 (95.9) |
| | Skills certification | 141 (18) |
| | Diploma | 301 (38.3) |
| | Advanced-diploma | 88 (11.2) |
| | Bachelor's degree | 206 (26.2) |
| | Master's degree | 11 (1.4) |
| | PhD | 6 (0.8) |

should they come across such patients (see Tables 3 and 4). They did feel they were legitimate in their roles in screening and counselling such patients. In Table 4, there were only specific individual statements within each domain that reported a

statistical difference (ie, $P < .01$) such as 'I feel I have a working knowledge of alcohol and alcohol-related problems' measured a difference between the doctor/nurse groups responding 'agree', 'neutral' and 'disagree'.

Table 3. AAPPQ for doctors and nurses.

| DOMAIN | AAPPQ FACTOR | DOCTORS AGREE (%) | NURSES AGREE (%) | TOTAL (%) |
|------------------------|---------------------------------------|-------------------|------------------|-----------|
| Role security | Role adequacy (No. 1-7) | 42.7 | 40.9 | 41.2 |
| | Role legitimacy (No. 8-11) | 75.5 | 51.9 | 55.1 |
| | Role support (No. 12-14) | 34.1 | 37.4 | 36.9 |
| Therapeutic commitment | Motivation (No. 15-19) | 33.3 | 37.1 | 36.5 |
| | Task-specific self-esteem (No. 20-25) | 22.6 | 29.8 | 25.1 |
| | Work satisfaction (No. 26-30) | 20.2 | 20.5 | 20.5 |

Table 4. AAPPQ subscales.

| | | AGREE | | NEUTRAL | | DISAGREE | | P-VALUE |
|-----------------------------------|---|------------|-----------|------------|-----------|------------|-----------|---------|
| | | DOCTOR (%) | NURSE (%) | DOCTOR (%) | NURSE (%) | DOCTOR (%) | NURSE (%) | |
| <i>QN AAPPQ (Role Adequacy)</i> | | | | | | | | |
| 1 | I feel I have a working knowledge of alcohol and alcohol-related problems. | 61.3 | 42.5 | 14.5 | 29.9 | 24.2 | 27.7 | <.01 |
| 2 | I feel I know enough about the causes of drinking problems to carry my role when working with drinkers. | 38.7 | 46.8 | 23.4 | 27.3 | 37.9 | 25.9 | .027 |
| 3 | I feel I know enough about the alcohol dependence syndrome to carry out my role when working with drinkers. | 42.7 | 38.6 | 17.7 | 32 | 39.5 | 29.5 | .027 |
| 4 | I feel I know enough about the psychological effects of alcohol to carry my role when working with drinkers. | 44.3 | 46.3 | 21 | 30.3 | 34.6 | 23.4 | .136 |
| 5 | I feel I know enough about the factors which put people at risk of developing drinking problems to carry out my role when working with drinkers. | 44.3 | 48.7 | 19.4 | 29.6 | 36.3 | 21.7 | .002 |
| 6 | I feel I know how to counsel drinkers over the long term. | 12.9 | 23.7 | 21.8 | 28.7 | 65.3 | 47.6 | .009 |
| 7 | I feel I can appropriately advise my patients about drinking and its effects. | 54.8 | 40.2 | 15.3 | 31.9 | 29.8 | 28 | .005 |
| <i>QN AAPPQ (Role Legitimacy)</i> | | | | | | | | |
| 8 | I feel I have a clear idea of my responsibilities in helping drinkers. | 41.4 | 39.3 | 30.1 | 31.6 | 28.4 | 29.2 | .744 |
| 9 | I feel I have the right to ask patients questions about their drinking when necessary. | 91.8 | 59.1 | 4.9 | 26.3 | 3.2 | 14.6 | <.01 |
| 10 | I feel that my patients believe I have the right to ask them questions about drinking when necessary. | 81.5 | 51 | 12.9 | 30.7 | 5.6 | 18.3 | <.01 |
| 11 | I feel I have the right to ask a patient for any information that is relevant to their drinking problems. | 87.1 | 58.1 | 9.8 | 27.9 | 3.2 | 14 | <.01 |
| <i>QN AAPPQ (Role Support)</i> | | | | | | | | |
| 12 | If I felt the need when working with drinkers, I could easily find someone with whom I could discuss my personal difficulties that I might encounter. | 33.8 | 35.5 | 30.6 | 34.9 | 35.4 | 29.6 | .348 |

(Continued)

Table 4. (Continued)

| | | AGREE | | NEUTRAL | | DISAGREE | | P-VALUE |
|---|--|------------|-----------|------------|-----------|------------|-----------|---------|
| | | DOCTOR (%) | NURSE (%) | DOCTOR (%) | NURSE (%) | DOCTOR (%) | NURSE (%) | |
| 13 | If I felt the need when working with drinkers, I could easily find someone who could help me clarify my professional responsibilities. | 35.5 | 38.9 | 29 | 33.1 | 35.5 | 28 | .610 |
| 14 | If I felt the need, I could easily find someone who would be able to help me formulate the best approach to a drinker. | 3 | 37.8 | 25 | 33.5 | 41.9 | 28.6 | .115 |
| <i>QN AAPPQ (Motivation)</i> | | | | | | | | |
| 15 | I am interested in the nature of alcohol related problems and the responses that can be made to them. | 35.5 | 55.9 | 41.1 | 27.8 | 23.4 | 16.1 | .001 |
| 16 | I want to work with drinkers. | 8 | 16 | 25.8 | 36 | 66.1 | 48.1 | <.01 |
| 17 | I feel that the best I can personally offer drinkers is referral to somebody else. | 80.6 | 51.7 | 8.9 | 31.6 | 10.5 | 16.7 | <.01 |
| 18 | I feel there is little I can do to help drinkers. | 35.5 | 38.7 | 21.8 | 34.3 | 42.7 | 27 | .006 |
| 19 | Pessimism is the most realistic attitude to take towards drinkers. | 6.5 | 23 | 21.3 | 45.6 | 72.1 | 31.4 | <.01 |
| <i>QN AAPPQ (Task-specific Self-esteem)</i> | | | | | | | | |
| 20 | I feel I am able to work with drinkers as well as others. | 43.9 | 36.6 | 29.3 | 40.5 | 26.8 | 22.7 | .026 |
| 21 | All in all I am inclined to feel I am a failure with drinkers. | 9.7 | 13.7 | 34.7 | 44.1 | 55.6 | 42.2 | .021 |
| 22 | I wish I could have more respect for the way I work with drinkers. | 17.7 | 33.9 | 60.5 | 52.3 | 21.8 | 13.8 | <.01 |
| 23 | I feel I do not have much to be proud of when working with drinkers. | 10.5 | 23.5 | 46.8 | 45.8 | 42.7 | 30.8 | .004 |
| 24 | At times I feel I am no good at all with drinkers. | 25.8 | 22.7 | 36.3 | 44.8 | 37.8 | 32.6 | .014 |
| 25 | On the whole, I am satisfied with the way I work with drinkers. | 28.3 | 22.5 | 55.6 | 54.6 | 16.1 | 23 | .124 |
| <i>QN AAPPQ (Work Satisfaction)</i> | | | | | | | | |
| 26 | I often feel uncomfortable when working with drinkers. | 20.9 | 26.4 | 34.7 | 41.6 | 44.4 | 32 | <.01 |
| 27 | In general, one can get satisfaction from working with drinkers. | 30.6 | 20.6 | 47.6 | 49.8 | 21.8 | 29.6 | .017 |
| 28 | In general, it is rewarding to work with drinkers. | 18.5 | 20.6 | 52.4 | 50.4 | 29 | 28.9 | .014 |
| 29 | In general, I feel I can understand drinkers. | 21.7 | 29.9 | 46 | 45.5 | 32.3 | 24.6 | .060 |
| 30 | In general, I like drinkers. | 8.8 | 5.3 | 43.5 | 38.5 | 47.6 | 56.2 | .001 |

From Table 3, in *'Role Adequacy'*, 43% of doctors and 41% of nurses felt they had enough knowledge and skills in managing alcohol related conditions. In *'Role Legitimacy'*, a high proportion (76%) of doctors reported belief they had the right to address alcohol related disorders in their patients they were managing

while only 52% of nurses felt the same way. In *'Role Support'*, only 34% of doctors and 38% of nurses felt supported in their work with such patients. In *'Motivation'*, 33% of doctors and 37% of nurses felt motivated to work with AUD patients. In *'Task Specific Self Esteem'*, 23% of doctors and 30% of nurses felt good

Table 5. Staff perception of alcohol treatment resources.

| | NO. OF DOCTORS AGREEING (%) | NO. OF NURSES AGREEING (%) | TOTAL NO. AGREEING (%) | P-VALUE |
|---|--------------------------------|-------------------------------|------------------------|---------|
| It is important to initiate intervention for alcohol use disorder patients in current daily work. | 111 (86.7) | 609 (77.6) | 720 (78.9) | .006 |
| Staff are just too busy to deal with alcohol use disorders. | 78 (60.9) | 291 (37.1) | 369 (40.4) | <.01 |
| Public health education campaigns in general make society more concerned about alcohol use disorders. | 86 (67.2) | 598 (76.2) | 684 (74.9) | <.01 |
| Government health policies support staff who want to work in alcohol use disorders treatment. | 24 (18.8) | 357 (45.5) | 381 (41.7) | <.01 |
| Support services in the community are readily available for alcohol use disorder patients to be referred to. | 42 (32.8) | 523 (66.6) | 565 (61.9) | <.01 |
| Support services in the community for alcohol use disorders are well publicised. | 11 (8.6) | 248 (31.6) | 259 (28.4) | <.01 |
| Quick and easy screening questionnaires for alcohol use disorders are available in daily work. | 21 (16.4) | 180 (22.9) | 201 (22) | <.01 |
| Quick and easy counselling materials for alcohol use disorders are available in daily work. | 8 (6.3) | 198 (25.2) | 206 (22.6) | <.01 |
| Training programmes for early intervention of alcohol use disorders are available in current place of work. | 8 (6.3) | 211 (26.9) | 219 (24) | <.01 |
| Training in early intervention of alcohol use disorders is recognised as continuing medical education in current place of work. | 26 (20.3) | 310 (39.5) | 336 (36.8) | <.01 |

working with AUD patients. In '*Work Satisfaction*', 20% of doctors and 20% of nurses felt satisfied working with AUD patients.

From Table 4, looking at the statements which described '*Role Adequacy*', 61.3% of doctors and 42.5% of nurses agreed that they did have a working knowledge of alcohol and alcohol-related problems ($P < .01$). More than half of doctors (54.8%) and 40.2% of nurses felt they could appropriately advise their patients about drinking and its effects ($P = .005$). Only 12.9% of doctors and 23.7% of nurses surveyed felt they know how to counsel drinkers over the long term ($P = .009$). Similarly, for statements describing '*Role Legitimacy*', about 92% of doctors felt they have the right to ask patients questions about their drinking when necessary ($P < .01$), and about 82% felt their patients would believe they had the right to ask them about their drinking when necessary ($P < .01$). Only 42% of doctors and 39.3% of nurses felt they have a clear idea of their responsibilities in helping drinkers ($P = .744$). In statements describing '*Role Support*', approximately only a third of doctors and nurses surveyed reported feeling supported if they did this work. Only 33.8% of doctors and 35.5% of nurses felt they would easily find someone to discuss personal difficulties they might encounter when working with drinkers ($P = .348$).

Looking at the statements describing '*Motivation*', 35.5% of doctors were interested in the nature of alcohol-related problems and the responses that could be made to them. This contrasted with a higher proportion (55.9%) in nurses who were

interested ($P = .001$). Only 8% of doctors and 16% of nurses agreed to statement that they wanted to work with drinkers ($P < .01$). In '*Task Specific Self-Esteem*', about 43.9% of doctors and 36.6% of nurses felt they were able to work with drinkers as well as others ($P = .026$). Only 9.7% of doctors and 13.7% of nurses thought they were inclined to feel they were failure with drinkers ($P = .021$). Looking at '*Work Satisfaction*', 8.9% of doctors and 5.3% of nurses liked drinkers in general ($P = .001$). 18.5% of doctors and 20.6% of nurses found it rewarding to work with drinkers ($P = .014$). About a fifth of doctors and a third of nurses felt they could understand drinkers ($P = .06$).

Staff perception of alcohol treatment resources

Both doctor (86.7%) and nurse (77.6%) group agreed that it was important to initiate intervention for patients with AUD in current daily work ($P = .006$) (see Table 5). They also concurred that public health education campaigns did make the society more concerned about AUD ($P < 0.01$). They were also aware that there were support services in the community that would be readily available to refer the patients to ($P < .01$).

Discussion

Overview of findings

Being first-line responders, the doctors and nurses had opportunities to engage and manage their patients who might have

alcohol abuse or misuse. This study reported that majority of nurses had a substantial lack of training about managing patients with AUD and majority of doctors only received limited knowledge from their undergraduate training through lectures and brief encounters with patients with AUD during their clinical rotations. The lack of standardised training for nurses and doctors in alcohol addiction beyond those in psychiatry or family medicine appears to be a common problem across the globe due to limited availability in curriculum time, poor coordination across departments, lack of qualified faculty members teaching addiction medicine and insufficient treatment facilities available to be used as education sites.³⁵ Despite majority of doctors and more than half of the nurses agreeing that they were in a position to want to inquire and manage alcohol problems in their patients, the lack of structured training serves as a barrier in treating patients with AUD. As alcoholism is a chronic behavioural problem and has a waxing and waning nature, staffs generally felt unsupported and inadequate in referring them for aftercare in the community. And this might be the reason that gave rise to negative perception towards such patients with alcohol problem.

In the inpatient setting, alcohol misuse may not be the presenting health problem. The patients may be too ill during the acute care for healthcare staff to explore about their pattern of alcohol-use. There were considerable time demands to build sufficient rapport with patients to explore and introduce interventions regarding their alcohol-use.³⁶ Nurses also differed in their responses due to cultural and professional backgrounds especially non-local workers from other regions of South-East Asia (17.1%). This might translate to their attitudes towards AUD being different from their local counterparts. They might accept the drinking habit but reject the person whose use of alcohol might be out of control. Interestingly, it was noted in the survey that 12.5% of nurses consumed alcohol compared to 48.4% of doctors. There were also similar findings reported amongst the Australian healthcare settings where doctors were more likely to consume alcohol compared to nurses.³⁷

Both doctors and nurses similarly reported low rates of role adequacy, role support, motivation, task specific self-esteem and work satisfaction but doctors had much higher levels of role legitimacy than nurses (76% vs 52%). This replicated the findings in a New Zealand study³⁸ where doctors had higher levels of role legitimacy than nurses. Another study³⁹ done amongst emergency-room staff in a Scottish hospital found that nurses (53%) were more hesitant than doctors (35%) in asking about patient's alcohol consumption as they were more concerned about the patient's reactions becoming offensive if questions about alcohol use were asked. This was in contrast with the results amongst National Health Service (NHS) staff in the Yorkshire region of England where it was found that nurses had higher role legitimacy score than doctors.⁴⁰ Another study done in Finland found that 68% of doctors could bring up the subject of alcohol use, while only 18% of them thought

that they had enough knowledge to work with patients with AUD.⁴¹ The relatively low levels of role support amongst healthcare staff in our study was also reflected in the Scottish study.³⁹ Having organisational support in normalising substance misuse treatment would help in improving therapeutic attitudes amongst healthcare staff.⁴²

Even though both doctors and nurses' groups were found to have similar motivation levels to work with patients with AUD, it was noted that nurses were more interested than doctors (55.9% vs 35.5%) in the nature of alcohol-related problems and in providing responses to these patients. This was similar to the NHS study⁴⁰ in Yorkshire, England as well as the Auckland study⁴³ in New Zealand where nurses had greater motivation levels than doctors in helping patients with AUD. 80.6% of doctors and 51.7% of nurses felt the most appropriate way to help patients with AUD was to refer them to someone else as addiction services are usually provided by specialised mental health teams in Singapore,⁴⁴ and majority of non-psychiatric healthcare staff lack the adequate training.

The low job levels of work satisfaction amongst doctors and nurses were also reflected within 2 studies^{19,38} done in New Zealand and Australia, suggesting that assessment and treatment of patients with AUD was not considered a rewarding activity. However, it was interesting to note in those 2 comparison studies that task-specific self-esteem amongst healthcare workers was high unlike the results for both doctors and nurses' groups in our study. One possible explanation could be that Singaporean healthcare staff might lack the confidence or satisfaction in working with alcohol using patients compared to their colleagues in the Australasian region.

Strengths and limitations

One strength in this study was a large enough sample of doctors and nurses participating in the study, with representation of non-psychiatric specialities. At time of the survey, there were 457 doctors and 1643 nurses working in the hospital and the 128 doctors and 785 nurses who took part in the survey came from all the 20 inpatient wards, (except the psychiatric ward, prison ward, Clinical Trial Research Unit (CTRU) ward, outpatient and emergency settings). The responders were encapsulated within the inpatient environment where health professionals had more time to engage patients with alcohol-use. Another strength was that the demographics of the study population largely reflected the typical makeup of healthcare staff in most public hospitals, where there was often a significant proportion of foreign nursing staff to supplement the make-up of the nursing population (Singapore Annual Nursing Board Report^{45,46}).

The limitation in doing this cross-sectional observational study was that it might not have accurately reflected the climate though it offered a glimpse into the prevailing attitudinal situation for changes to be made. Incidentally, this study was

conceived and conducted during the time period when nurses changed teams and doctors got posted out of the hospital as part of service and training requirement. The sample characteristics might not be representative as a result of this movement. AAPPQ's purported measures were theoretical constructs attempting to explain why various health professionals may be reluctant to address substance misuse problems with patients. As the responses were possibly prone to recall bias and very much dependent on the interpersonal and cultural influences, the interpretations of the data may be open to criticism. This however remained to date the first local presentation of data on this topic.

Conclusion

It is henceforth important to introduce in-house programmes within the hospital to educate, empower and emphasise to the staff the importance of their contact with patients with alcohol-use. The prompt identification and treatment of patients with probable AUD are contingent on the attitudes displayed towards these groups of patients. Junqueira et al⁴⁷ advocated focus on clinical training and teaching of proper attitudes to improving the attitudes towards these patients. The negative attitudes of healthcare staff towards alcohol-using patients are unlikely unique, given the homogeneity of results seen across studies in other countries.

A nation-wide concerted effort could be made to standardise and improve the training and recognition of patients with alcohol-use. Brief training courses in dual diagnosis interventions and inter-professional education programmes regarding substance abuse could lead to improvement in the perceptions and attitudes towards patients with AUD.^{48,49} Designing training programmes based on HCW's self-esteem, motivation and adequacy could also enhance the effectiveness of training.⁵⁰

Within the hospital, increasing the availability of screening and counselling materials such as incorporating alcohol screening tools in the electronic health records software, providing information leaflets to patients on admission and increasing awareness via public health campaigns might also be helpful in bridging the barriers to ASBI.⁵¹ In addition, the emphasis and adoption of a preventive model of care rather than a disease model within the healthcare system might be effective in breaking down the barriers of care towards patients with AUD.

The Delivery of health care interventions (ODHIN) study in 9 European countries showed that HCW whose approach was disease rather than preventive model of care and not regarding prevention as a medical responsibility had lower therapeutic commitment.⁵² The same study also reported that education marginally increases role security of HCW and that HCW's attitudes did not significantly influence ASBI rates, while youth orientated policies and regulatory policies like increasing prices of alcohol were shown to role security of HCW.⁵³

Singapore imposes high taxes on alcohol imports and is the sixth most expensive city in the world to purchase alcohol.⁵⁴ The legal drinking age in Singapore is 18 years old and those under the legal drinking age are not allowed to purchase or consume alcohol in places selling alcohol.⁵⁵ Singapore is working towards being a smart nation, where the government is leveraging on digital advancements to transform the way of life.⁵⁶ Indeed with the widespread use of smartphones, development of phone applications to deliver ASBI to individuals will offer greater flexibility and anonymity for the individual and reach a larger proportion of the in-need population. A systematic review and meta-analysis of 23 studies of the effectiveness of electronic screening and brief intervention (eSBI) found a statistically significant reduction in alcohol consumption in non-treatment-seeking hazardous and harmful drinkers.⁵⁷ Further studies could be conducted if designing a customised training programme for HCW based on their attitudes would improve ASBI rates in hospitals and whether the use of phone applications to deliver ASBI would be effective in reducing the consumption of alcohol in the general population.

Acknowledgements

The following individuals have made substantive contributions to the research and manuscript: Heng Nieng Chan, Department of Psychiatry, Singapore General Hospital, Singapore; June Sing Tam, Institute of Technical Education College East, Singapore; Yiong Huak Chan, Biostatistics Unit, National University of Singapore, Singapore.

Author Contributions

The authors alone are responsible for the content and writing of this paper. All authors wrote and planned the manuscript. All authors read and approved the final manuscript. All authors have made substantial contributions to the conception and design of the work, and the acquisition, analysis and interpretation of data for the work. All authors have drafted the work and revised it critically for important intellectual content. All authors have approved this final version to be published. All authors have agreed to be accountable for all aspect of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Ethical Approval

This study was conducted in compliance with the Recommendations for the Conduct Reporting, Editing, and Publication of Scholarly Work in Medical Journals formulated by the International Committee of Medical Journal Editors (ICMJE).

Statement of Ethics

Subjects had given their written informed consent and that this study protocol was approved by Institutional Review Board

(IRB). This study had been conducted in compliance with the protocol following the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines, the GCP (Good Clinical Practice) and as per the requirements from Institutional Review Board (IRB).

ORCID iD

Yit Shiang Lui  <https://orcid.org/0000-0003-2921-3942>

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