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TITLE PAGE

An investigation of alcohol's role in self-harm in rural Sri Lanka: a protocol for a multi-method, qualitative study

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ABSTRACT

Introduction

Deliberate self-harm is a major social, economic and public health problem in rural Sri Lanka, where one of the highest suicide and self-harm rates in the world persists. Though alcohol has been found to be a major risk factor for self-harm in Sri Lanka, we know little about the connection between the two. This paper describes a protocol for a qualitative study investigating alcohol's role in self-harm in rural Sri Lanka. This will be investigated at three levels: the individual, community and policy level. The analysis will bring new understandings of the complex link between alcohol and self-harm in Sri Lanka, drawing on structural, cultural and social concepts. Further, it will equip researchers, health systems and policy makers with vital information for developing strategies to address alcohol-related problems as they relate to self-harm in the country.

Methods and analysis

To capture the complexity of the link between alcohol and self-harm in rural Sri Lanka, a range of qualitative methods will be utilized: serial narrative life-story interviews with individuals who have non-fatally self-harmed and where alcohol directly or indirectly was involved in the incidence as well as with their significant others; observations in communities and families; focus group discussions with community members; and key-informant interviews with stakeholders who have a stake in alcohol distribution, marketing, policies, prevention and treatment as they relate to self-harm.

Ethics and dissemination

The study has received ethical approval from the Ethical Review Committee of the Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka. Due to the nature of the

research topics, a sensitive data collection technique will be used and ethical issues will be considered throughout the study.

Results will be disseminated in scientific peer-reviewed articles in collaboration with Sri Lankan and other international research partners.

STRENGTHS AND LIMITATIONS OF THE STUDY

- The study will provide new knowledge and an increased understanding of an area that has previously received limited research attention – the structural, cultural and social context behind the link between alcohol and self-harm in rural Sri Lanka;
- Quality of the information gathered and comprehensiveness are ensured by collecting data at several levels and through triangulation between data sources, informant groups and theories;
- One limitation of the study is the sensitivity of the issues of alcohol and self-harm, which may limit participation in the study;
- Due to the nature of the methodologies utilized, the results require further studies in order to be transferable to other settings.

INTRODUCTION

Deliberate self-harm and suicide is a serious social, economic and public health issue, being one of the top 20 leading causes of death globally.(1) The issue is particularly pronounced in Asia, where 60% of suicides occur.(2) Though a decrease has been seen in recent years, Sri Lanka still has one of the highest suicide and self-harm rates globally.(3) It has been found that problematic alcohol use is often involved in cases of self-harm – either in the one who consumes the alcohol or in someone affected by it.(3–9) With a qualitative approach, this study will explore the structural, social and cultural behaviour surrounding alcohol's role in self-harm at the individual; community and policy level in the Anuradhapura district in the North Central Province in Sri Lanka.

The objectives of this study are to:

(i) Investigate the explanatory models and coping strategies for alcohol use with a focus on its relation with self-harm in households in rural Sri Lanka;

(ii) Investigate community perceptions and responses to alcohol use and its relation with self-harm in rural Sri Lankan communities;

(iii) Investigate stakeholders' involvement, influence on and motivations in controlling harmful effects of alcohol in Sri Lanka with a special focus on preventing self-harm.

Background

Alcohol, self-harm and suicide

International research shows that both acute and chronic alcohol use are associated with suicidal behaviour,(10–14) and it is well-established that alcohol misuse is not merely an individual or psychological phenomena, but a sociological one that has a profound impact

on deviations found in suicidal behaviour.(13,15) The relationship between alcohol and self-harm is complex and seems to vary between genders, cultures and countries.(14,16,17) Problematic alcohol use affects both social and family life and poses risks not only for individual dysfunction, but also for relational conflict and family breakdown.(14) Alcohol often acts as a long term risk factor for self-harm, for example through social and financial problems, domestic violence, and effects on mood.(18) However, in the short-term, it may have an acute level effect on the mood and increase the risk for impulsive and destructive behaviour even when misused by individuals without a chronic alcohol problem.(16) Suicide may thus be an end point for a long-term or short-term drinker, but a significant other of an alcohol misuser may also deliberately self-harm, in seeking to escape the negative influences of the alcohol.(17,19)

Alcohol, self-harm and suicide in Sri Lanka

Even though extensive international literature on the relationship between alcohol and self-harm exists, there has been little emphasis on the cultural and behavioural aspects underlying the connection in Sri Lanka. A few researchers have touched on it,(5,20–22) but none of these have thoroughly investigated the dynamics and complex interlinkages between alcohol and self-harm. A Sri Lankan study of 159 acute self-poisoning cases found that 32% were under the influence of alcohol when admitted to hospital.(5) Another study conducted a psychological autopsy of 372 suicides in rural Sri Lanka to find that alcohol misuse was common among male suicides at 61% while alcohol misuse in another family member was believed to contribute to 14% of female suicides.(7)

Alcohol use in Sri Lanka

Though difficult to document since much of it is unrecorded, alcohol consumption is on the increase in Sri Lanka.(20,23) It is almost exclusively a male practise(22) and the types of alcohol consumed are closely linked to class and status, ranging from expensive, international liquor and beer brands on one end of the spectrum to cheap, illicitly produced kasippu on the other end.(24) The international literature found motives for alcohol use to include social or ceremonial reasons,(25) means of enjoyment, accompaniment to food, and as an intoxicant.(14) In Sri Lanka alcohol intoxication is primarily used as a mean to reduce tension, in a moderate degree at ceremonies, and less so for personal enjoyment.(21,23,24,26) Alcohol consumption predominately happens for the sole purpose of intoxication.(26,27) A Sri Lankan study of individuals who self-harmed in rural areas found that they regarded drinking as a reasonable response to the stresses of being a farmer.(5) In addition, a self-administered questionnaire amongst young Sri Lankan men found that alcohol was used to dominate surroundings and to become more prominent among peers.(23) However, much remains to be understood about how these motives for alcohol use are linked to cases of self-harm.

Alcohol and its effects on family and social life

In Sri Lanka, research shows that social harm from alcohol may contribute to violence(22) and domestic violence;(28) impact the family budget and duties; feelings of shame and guilt;(29–31) and instigate self-harm.(5) A UNICEF study among Sri Lankan adolescents found that 18.3% of their fathers drank alcohol and 26.6% of them would become violent afterwards.(32) It also seems that self-harm by women and children is often linked to a husband or father's drinking.(22) Such consequences of excessive alcohol use and how it

affects family and social life will be investigated further, in order to be able to understand the connection between alcohol and self-harm.

Alcohol and self-harm at the community level

Community members' attitudes towards alcohol use may affect how alcohol users, families and communities interact.(33) Societal stigmatization and norms may have a negative influence on the individual and family members(21) but at the same time, the community can play a role in supporting members who have problems related to alcohol use and in cases of self-harm or suicide. This link between the individual and the perceptions of the close social surroundings will be investigated in terms of how group concepts of alcohol norms, shame and support are relevant for the rural, Sri Lankan setting.

Stakeholders in alcohol and self-harm prevention and interventions

In Sri Lanka, a number of risk factors to self-harm have been addressed by limiting access to the means of self-harm or improving medical management of poisoning through regulations and ban of highly toxic pesticides used for self-poisoning.(34) All though some ad hoc initiatives have been implemented responding to the issue of alcohol, including through taxes and policies (i.e. ban of alcohol commercials at sports events);(35) treatment (a NGO treatment program for alcohol abusers in Colombo);(36) advocacy programmes on the prevention of alcohol misuse;(37) and NGO-led educational programmes,(38,39) there is no thorough evaluation of their effectiveness and alcohol continues to be a major risk factor for self-harm in Sri Lanka. An investigation of the environment in which initiatives are developed is therefore timely.

METHODS AND ANALYSIS

Conceptual framework

The following conceptual framework provides an overview of different concepts relevant for investigating alcohol's role in self-harm in Sri Lanka. This will be the starting point for analysis, guided by the data collected.

Explanatory models

The study draws on Kleinmann's 'explanatory models',(40) which explores how illnesses are understood and dealt with through ethno-cultural lenses,(41) i.e. how individuals make sense of their illness.(40) Explanatory models will be used to investigate how people explain the use of alcohol in relation to self-harm, by asking questions along the themes of why individuals consume alcohol; the perceived impact of alcohol; and the problems alcohol may cause (if any).

Definitions of alcohol: use and harm

A key aim in this study is to investigate how alcohol use is described in the rural, Sri Lankan context. There is not one single definition of 'normal' drinking, problem drinking, misuse or alcohol dependence that applies equally to all cultures and environments(42) and variations in drinking patterns and population groups for whom alcohol intake is accepted all play a role in how alcohol use is perceived and labelled.(43) An open and investigatory approach to the topic will be sought when interacting with individuals and communities ensuring that they explain their use of terms such as alcohol abuse and problem drinking.

‘Alcohol’s harm to others’ covers the notion that damage or social harm from the use of alcohol affects not only the drinker, but also others.(33,44,45) This can span from situations where an individual’s drinking may annoy others to more substantial effects,(46) including violence, family dysfunction, and issues in the work place.(14) The definition and extent of this harm will be investigated in the rural Sri Lankan context. Since the harm can happen at several levels, alcohol’s role in self-harm will be investigated at the individual, community and policy level, and not merely at one level.

Coping

‘Coping’ in this study pertains to the way individuals interact with stressors when trying to return to a ‘normal’ functioning level after a stressful situation(47) and how they manage it by minimizing, changing or accepting it.(48) ‘Problem-focused’ coping strategies include taking action to reduce demands of the stressor or increasing resources to manage it. ‘Emotion-focused’ coping entails managing the emotions evoked by the stressful event.(47) The concept of coping is complex and many factors can play a role in how alcohol and/or self-harm are coped with. In terms of coping mechanisms related to alcohol misuse, they can span from using alcohol to get through a tough time(47) to having to cope with the consequences of being a heavy alcohol drinker or being a significant other of one. These theoretical concepts of coping will be utilized to shape data collection and when analysing how individuals cope with the alcohol use - specifically in cases of non-fatal self-harm.

Study setting

The study will mainly be carried out in the Anuradhapura district in the North Central Province, where one of the highest suicide rates in Sri Lanka persists.(49) It is connected to the ‘Safe Storage’ study, which is a large community-based, cluster randomized control

trial, evaluating the effectiveness in storing pesticides safely to reduce self-harm.(50) In the Safe Storage study, 667 cases of self-harm were identified amongst the individuals admitted to Anuradhapura Teaching Hospital or one of the 11 peripheral units included into the safe storage study in 2013. Participants for this study will be sampled through three peripheral units, embracing the diversity in the area in terms of socio-economic characteristics, agricultural production and history of settlement.(51)

Study design

Extensive quantitative research has been carried out on the topic of self-harm(51–53) and alcohol(29,54) separately in Sri Lanka, however limited qualitative research has been conducted.(21,55,56) This study responds to this gap by utilizing a qualitative research approach, seeking an in-depth perspective of the individual's and communities' interpretations and perceptions of these phenomena in its social, structural, and cultural context. A range of qualitative methods will be applied: observations; narrative, life-story interviews; focus group discussions (FGDs); and semi-structured, key- informant interviews.

Selection of participants

To participate in the study, participants (all adults >18) will be:

A. Individuals who non-fatally self-harmed and where alcohol played a role in the incident (the individual was under the influence of alcohol or the incident was sparked by another's alcohol consumption);
B. Significant others of individuals who non-fatally self-harmed and where alcohol was directly or indirectly involved in the incidence;

C. Community-members, not necessarily from households where self-harm occurred or where alcohol is a profound issue;
D. Key informants with a stake in alcohol and self-harm prevention and interventions in Sri Lanka.

Narrative life-story interviews

In-depth interviews are appropriate when seeking to obtain meaning(57) and get people's own perspective of a situation.(58) For the first objective, the interviews will have a narrative life-story component in order to obtain an understanding of the individual's life, along with the events and decisions that led up to the self-harm incidence. If deemed relevant a timeline will be made in collaboration with the participant to make a visual overview of important events. The combination of visual and verbal methods can be helpful in encouraging participants to talk while reversing the power-roles between the researcher and the participant. This will assist the participant to guide what topics will be covered and when.(59)

The narrative life-story interviews will be carried out in face-to-face meetings with A and B in a quiet place, i.e. in their homes or in another relevant setting, as determined by the participants. The researchers will engage with the participants through series of interviews (up to three times) to construct a comprehensive life-story narrative. Up to 30 individuals will be interviewed until theoretical saturation has been achieved.

For A, selection will be purposive from three peripheral hospitals in the study area. By choosing this selection strategy, we exclude those who by different reasons did not get

admitted to hospital as well as those who fatally self-harmed. This selection strategy will evidently have implications on the findings. B is selected with acceptance from A.

Individuals with an apparent psychiatric illness will not be included in the study. The study will be carried out in collaboration with local research assistants (a male and a female), who are familiar with the local context, the specific study site and population, and carefully trained in interviewing about the sensitive issues of self-harm and alcohol use.

Themes to be explored include:

- Important events in the participants' life;
- The specific case of self-harm and how alcohol was involved;
- Perceptions and beliefs of alcohol use and misuse;
- The perceived impact of alcohol use;
- Coping strategies used by the alcohol consumer and significant others;
- Explanatory models of self-harm, including perceived causes etc.

Participant observations

Observations will be key in gaining an in-depth understanding of the local alcohol culture, social structures and interactions. It can help to showcase implicit features of social life, provide context of behaviour,(58) and shed light on non-explicit knowledge.(60) Observations will take place with a starting point in approximately ten of the participants (A & B), their families and villages, observing social dynamics and the workings of the community. It will also include investigating alcohol selling establishments and social gatherings where alcohol is served.

Themes to be explored include;

- Who consumes alcohol;
- When, how much, and what is consumed;
- How is selling and consumption organized;
- In which settings alcohol is sold and consumed;
- How is it talked about;
- How do people react towards intoxicated individuals.

Focus Group Discussions

In order to obtain a comprehensive understanding of communities' perceptions of alcohol use and how it relates to self-harm, focus group discussions (FGDs) will be conducted. FGDs are effective when seeking a broad range of opinions on a topic and it provides the opportunity for participants to probe each other's reasons for holding a specific view.(58) Knowing that this method will bring out group norms of 'what should be',(57) discussion themes will be verbalized as general, non-personal issues. In addition, small vignettes covering different scenarios of alcohol in connection with self-harm will be used to spur conversation. Vignettes are particularly useful when exploring sensitive topics, as they can help distance participants from the topic of discussion,(61) which has proven to be beneficial in other studies on self-harm carried out in Sri Lanka.(5)

Approximately six FGDs will be carried out. Since previous research in Sri Lanka has shown gender differences in alcohol intake and perceptions towards alcohol use(5) they will be held in age (young/middle-aged/elderly) and gender-segregated groups, with a maximum of six participants in each group to create a comfortable atmosphere. Participants will be selected through snowballing and represent homogenous groups of

adults from the selected communities. They will not necessarily be from households where alcohol use or self-harm is an issue.

Themes to be explored include:

- General perceptions of alcohol use;
- Reactions towards people who consume alcohol;
- Common explanations for use of alcohol;
- How alcohol is associated with self-harm;
- How the community responds to alcohol use and self-harm.

Stakeholder interviews

To examine the environment in which alcohol and self-harm prevention and treatment initiatives, regulations and policies have and will be developed, a stakeholder-analysis will be carried out. It will follow three main steps as outlined by Varvasovszky and Brugha: 1. identifying and approaching stakeholders; 2. describing stakeholder's positions, responsibilities and collaborations; and 3. diagnosing and suggesting strategies for future interventions.(62) Semi-structured interviews will be conducted with 15-25 stakeholders who have a stake in the decision making and implementation process(63) related to alcohol and self-harm policies and interventions in Sri Lanka. Stakeholders will include representatives from different organizational layers:

- Producers and traders of alcohol;
- Community representatives (leaders, priests, teachers);
- NGOs (ADIC, Mel Medura, Sumithrayo, FISD and others);
- Academia;
- The health system (public, private and ayurvedic sectors at several levels);

- Government (from ministries of Health; Education; Consumer Welfare; Child Development and Women's Affairs; the National Child Protection Authority and others).

Informants will be purposively selected from previous data collection and research, as well as through snowballing. New key informants will be added until no more relevant stakeholders can be identified and saturation is reached.

Themes to be explored include:

- Activities carried out on preventing alcohol misuse and/or self-harm;
- Interests in and agendas for prevention of self-harm and controlling of alcohol;
- Means of influencing the agenda, including interrelations with other stakeholders in this area;
- Past, present and future perspectives.

Data management

All interview guides will be translated from English to Sinhala by trained translators and validated by representatives from the larger research group. The interview and FGD guides will be pilot tested in similar informant groups and revised accordingly. Interviews and FGDs will be conducted and facilitated by English/Sinhala speaking research assistants, supported by the first author. All interviews and FGDs will be audio recorded with the informed consent of all participants. Notes and field notes will be taken at all occasions. The research assistants will carry out verbatim transcriptions of all interviews and FGDs.

Analysis

Analysis will be inductive and dynamic, starting immediately after the first interviews and FGDs continuing until the topics are well understood. It will be informed by the described conceptual frameworks and rely on a continuous triangulation of emerging analytical and theoretical concepts in conjunction with the diverse sources of empirical data. The analysis of data collected from interviews will follow the principles of systematic content analysis:(58) The transcripts of the interviews and FGDs will be coded to identify themes, ideas and patterns, and these codes will be grouped into broader themes. During the analysis, the English version will be controlled and compared with the Sinhala transcriptions, in order to ensure inclusion of all relevant context and local matters in the analysis.(64)

ETHICS AND DISSEMINATION

Informed consent

Verbal and written information about the aim of the study will be given in English or Sinhala, as appropriate to participants. In each case, the capacity of the participant to give consent will be assessed– e.g. a highly intoxicated person will not be able to make an informed decision. Participants will be informed that they can withdraw from the study at any time and that participation will not have negative consequences for them in terms of access to health care etc. For the serial, narrative life-story interviews, the continued participation will be verbally reconfirmed at each visit. Participants will be informed that all data collected will be stored safely and only be used by researchers, maintaining confidentiality.

Validity

In order to validate the findings of this study, a long period of field work with ample time to collect data (minimum 10 months) has been allotted. This extensive time allows for a comprehensive collection of multiple sources of data and an in-depth understanding of the phenomenon under study.(64) A rigorous transcription process with several external cross-checks are planned to ensure highest data quality and consistency in definitions of codes and analytical themes.(64) The participants will serve as check throughout the analysis process in an on-going dialogue about their reality and it will be made sure to also present discrepant information running counter to the themes.(65) The use of triangulation at several levels (data sources, informant groups and theories), as well as detailed descriptions of the contextual setting of the study will also enhance the comprehensiveness of the findings.(66) Finally, co-researchers from different research disciplines will continuously be engaged to discuss the interpretations of the study to ensure that the conclusions resonate with the broader research community.(66)

Reflexivity

When carrying out qualitative research, the researchers' background, culture and experiences influence the interpretation of the data.(64) According to Malterud et al, these pre-conceived ideas are a necessary pre-condition for understanding a topic and reflexivity starts by identifying such preconceptions brought into the project by the researchers.(67) This will carefully be considered throughout the study and the research team will maintain diaries to systematically document preconceptions and thus enhance trustworthiness and transparency.(65)

Power dynamics

In carrying out qualitative research it is difficult to avoid power imbalances between the researcher and the participant, since the interviewer can maintain control and lead the participants in a certain direction. Especially the individuals in group A and B are presumably vulnerable and may be marginalized. The research team will comprise local and international researchers, whom in different ways will differ from the participants, i.e. in terms of sex, socio-economic status and age. According to Creswell, some of these imbalances can be decreased by building trust and avoiding leading questions.(64) Further, the narrative, life-story approach has been chosen because it empowers the participant to lead the conversation, thereby shifting control.

Ethical considerations

Ethical approval has been obtained from the Ethical Review Committee of the Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka and been reviewed by the Safe Storage research group.

The Helsinki Declaration of 'Good Clinical Practice' will guide the study design and ethical issues will be considered from the outset and throughout the study. Inquiring into other's personal life can be experienced as traumatic. This will be countered by utilizing a sensitive data collection technique. While interviews about previous self-harm impacts participants' feelings, research indicated that the majority felt better afterwards(68) and a study involving family members of individuals who died from suicide showed that sensibly conducted interviews can have a valuable therapeutic effect.(69) Thus it may prove helpful to talk to 'outsiders' about a difficult issue.(70) However, the interview situation may still be upsetting and protecting the individual is a priority; i.e. the interviews will be carried

out alone, in a setting the participant prefers. In order to assess the participant's mood and whether the interview has had a negative influence, a Visual Analogue Scale (VAS) will be administered in which participants rate their mood on a scale before and after the interview. This method has been used in similar settings(71) and will assist in identifying individuals who may be at increased risk of repeated self-harm. Those participants who score lowest on the VAS will be offered more comprehensive support after the interview. Irrespective of the rating on the VAS the importance of seeking support when feeling distressed will be highlighted and all participants will be given information about where to seek help.

Dissemination

At the end of the study, findings will be communicated to the community and disseminated in peer-reviewed, internationally recognized journals in collaboration with Sri Lankan and other partners with maximum visibility for Sri Lankan researchers. Articles will also be submitted to other types of media to increase awareness of the topic.

AUTHORS' CONTRIBUTIONS

JBS drafted the initial manuscript and developed the protocol. TR and FK collaborated on conceptualizing and designing the study and contributed to the draft of the manuscript. BRS provided valuable input to methodology and background information on the study site. MP contributed towards the study set-up, logistics, and methodology. TA contributed to the context, cultural specificities, methodology and ethical considerations. SS furnished information on the structure of health systems, in addition to assisting with ethical and contextual considerations. All authors read and approved the final manuscript.

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COMPETING INTERESTS

The authors declare that they have no competing interests.

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TITLE PAGE

An investigation of alcohol's role in self-harm in rural Sri Lanka: a protocol for a multi-method, qualitative study

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ABSTRACT

Introduction

Sri Lanka has one of the highest suicide and self-harm rates in the world and though alcohol has been found to be a risk factor for self-harm in Sri Lanka, we know little about the connection between the two. This paper comprises a protocol for a qualitative study investigating alcohol's role in self-harm in rural Sri Lanka at three levels: the individual, community and policy level. The analysis will bring new understandings of the link between alcohol and self-harm in Sri Lanka, drawing on structural, cultural and social concepts. It will equip researchers, health systems and policy makers with vital information for developing strategies to address alcohol-related problems as they relate to self-harm.

Methods and analysis

To capture the complexity of the link between alcohol and self-harm in the Anuradhapura district in the North Central Province in Sri Lanka, qualitative methods will be utilized. Specifically, the data will consist of serial narrative life-story interviews with up to 20 individuals who have non-fatally self-harmed and where alcohol directly or indirectly was involved in the incidence as well as with their significant others (>18). Participants will be sampled from hospitals, representing areal diversity in terms of socio-economic and agricultural characteristics and history of settlement; observations in communities and families; six focus group discussions with community members; and key-informant interviews with 15-25 stakeholders who have a stake in alcohol distribution, marketing, policies, prevention and treatment as they relate to self-harm.

Ethics and dissemination

The study has received ethical approval from the Ethical Review Committee of the Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka. A sensitive data collection technique will be used and ethical issues will be considered throughout the study.

Results will be disseminated in scientific peer-reviewed articles in collaboration with Sri Lankan and other international research partners.

STRENGTHS AND LIMITATIONS OF THE STUDY

- The study will provide new knowledge and an increased understanding of an area that has previously received limited research attention – the structural, cultural and social context behind the link between alcohol and self-harm in rural Sri Lanka;
- Quality of the information gathered and comprehensiveness are ensured by collecting data at several levels and through triangulation between data sources, informant groups and theories;
- One limitation of the study is the sensitivity of the issues of alcohol and self-harm, which may limit participation in the study;
- Due to the nature of the methodologies utilized, the results require further studies in order to be transferable to other settings.

INTRODUCTION

Deliberate self-harm and suicide is a serious social, economic and public health issue, being one of the top 20 leading causes of death globally.(1) The issue is particularly pronounced in Asia, where 60% of suicides occur.(2) Though a decrease has been seen in recent years (from 47 to 23 per 100,000 population in 1995 and 2006), Sri Lanka still has one of the highest suicide and self-harm rates globally.(3) It has been found that problematic alcohol use is often involved in cases of self-harm – either in the one who consumes the alcohol or in someone affected by it.(3–9) With a qualitative approach, this study will explore the structural, social and cultural behaviour surrounding alcohol's role in self-harm at the individual, community and policy level in the Anuradhapura district in the North Central Province in Sri Lanka.

The objectives of this study are to:

(i) Investigate the explanatory models and coping strategies for alcohol use with a focus on its relation with self-harm in households in rural Sri Lanka;

(ii) Investigate community perceptions and responses to alcohol use and its relation with self-harm in rural Sri Lankan communities;

(iii) Investigate stakeholders' involvement, influence on and motivations in controlling harmful effects of alcohol in Sri Lanka with a special focus on preventing self-harm.

Background

Alcohol, self-harm and suicide

International research shows that both acute and chronic alcohol use are associated with suicidal behaviour,(10–15) influenced by access to alcohol in a certain context(13) as well

as the amounts consumed.(16) It is well-established that alcohol misuse is not merely an individual or psychological phenomena, but a sociological one that has a profound impact on deviations found in suicidal behaviour.(12,17) The relationship between alcohol and self-harm is complex and seems to vary between genders, cultures and countries.(13,18,19) Problematic alcohol use affects social and family life and poses risks not only for individual dysfunction, but also for relational conflict and family breakdown.(13) Alcohol often acts as a long term risk factor for self-harm, for example through social and financial problems, domestic violence, and effects on mood.(20) However, in the short-term, it may have an acute level effect on the mood and increase the risk for impulsive and destructive behaviour even when misused by individuals without a chronic alcohol problem.(18) Self-harm or suicide may thus be an end point for a long-term or short-term drinker, but a significant other of an alcohol misuser may also deliberately self-harm, in seeking to escape the negative influences of the alcohol.(19,21)

Alcohol, self-harm and suicide in Sri Lanka

It should be noted that the term 'self-harm' is used throughout this paper to describe deliberate injury to one self. This definition captures two important points; that most cases of self-harm in the Sri Lankan context are non-fatal and with little or no intent to die, and can thus not be classified as 'suicide attempts'.(22)

Even though extensive international literature on the relationship between alcohol and self-harm exists, there has been little emphasis on the cultural and behavioural aspects underlying the connection in Sri Lanka. A few researchers have touched on it(5,23–25) and a Sri Lankan study of 159 acute self-poisoning cases - the most common method of self-harm in Sri Lanka being pesticide poisoning(26) - found that 32% were visibly affected by

alcohol when admitted to hospital, which was confirmed by family and bystanders.(5) Another study conducted a psychological autopsy of 372 suicides in rural Sri Lanka to find that problem drinking or alcohol dependence was common among male suicides in 61% of cases while alcohol misuse in another family member contributed to 14% of female suicides.(7) None of these studies thoroughly investigated the dynamics and complex interlinkages between alcohol and self-harm.

Alcohol use in Sri Lanka

Officially, alcohol consumption is relatively low in Sri Lanka with a per capita intake of 3.7 litres in 2010 (2.2 in 2005), which include the WHO estimate of unrecorded liquor.(15) However, Sri Lankan alcohol consumption data is believed to be inaccurate.(27) Most alcohol consumed is the easily accessible, cheap, unrecorded, and illicitly brewed 'kassipu', mainly consumed in poor, rural areas,(23,28,29) – and difficult to document. Some suggest that up to 50 – 90% of alcohol consumed is illicit (24,29,30) and the actual alcohol consumption level potentially much higher. Further, with a lifetime abstinence rate at a high 69%,(15) many drinkers consume alcohol above the average.

Alcohol consumption in Sri Lanka is almost exclusively a male practise (25) (annual per capita consumption in 2010 was 7.3 litres for males and 0.3 litres for females)(15) and the types of alcohol consumed are closely linked to class and status.(30) Alcohol intoxication in Sri Lanka has primarily been used as a mean to reduce tension, in a moderate degree at ceremonies, and less so for personal enjoyment.(24,29–31) It predominately takes place for the sole purpose of intoxication.(29,32) A Sri Lankan study of individuals who self-harmed in rural areas found that they regarded drinking as a reasonable response to the stresses of being a farmer.(5) In addition, a self-administered questionnaire amongst young Sri

Lankan men found that alcohol was used to dominate surroundings and to become more prominent among peers.(31) However, much remains to be understood about how these motives for alcohol use are linked to cases of self-harm.

Alcohol and its effects on family and social life

Sri Lankan research shows that social harm from alcohol contributes to violence(25) and domestic violence;(33) impacts the family budget and duties; feelings of shame and guilt;(34–36) and instigate self-harm.(5) A UNICEF study among Sri Lankan adolescents found that 18.3% of their fathers drank alcohol and 26.6% of them became violent afterwards.(37) It also seems that self-harm by women and children is often linked to a husband or father's drinking.(25) Such consequences of excessive alcohol use and how it affects family and social life will be investigated in this study to be able to understand the connection between alcohol and self-harm.

Alcohol and self-harm at the community level

Community members' attitudes towards alcohol use may affect how alcohol users, families and communities interact.(38) Societal stigmatization and norms may have a negative influence on the individual and family members(24) but at the same time, the community can play a role in supporting members who have problems related to alcohol use and in cases of self-harm or suicide. This link between the individual and the perceptions of the close social surroundings will be investigated in terms of how group concepts of alcohol norms, shame and support are relevant for the rural, Sri Lankan setting.

Stakeholders in alcohol and self-harm prevention and interventions

In Sri Lanka, a number of risk factors to self-harm have been addressed by limiting access to the means of self-harm or improving medical management of poisoning through regulations and ban of highly toxic pesticides used for self-poisoning.(39) All though some ad hoc initiatives have been implemented responding to the issue of alcohol, including through taxes and policies (i.e. ban of alcohol commercials at sports events);(40) treatment (a NGO treatment program for alcohol abusers in Colombo);(41) advocacy programmes on the prevention of alcohol misuse;(42) and NGO-led educational programmes,(43,44) there is no thorough evaluation of their effectiveness and alcohol continues to be a major risk factor for self-harm in Sri Lanka. An investigation of the environment in which initiatives are developed is therefore timely.

METHODS AND ANALYSIS

Conceptual framework

The conceptual framework outlined below will guide the analytical process of the study. It builds on the recommendations of Hunt and Barker(45) for carrying out socio-cultural, anthropological research on drugs and alcohol.

Local alcohol and self-harm terminologies

Hunt and Barker urge researchers to examine how societies categorize alcohol use(45) since there is no single definition of 'normal' drinking, problem drinking, misuse or alcohol dependence that applies equally to all cultures and environments.(46) An open and investigatory approach to the topic will therefore be sought in this study when interacting with individuals and communities, ensuring that they explain their understanding of terms such as alcohol abuse, problem drinking, alcohol-related self-harm and harm to others.

Relational aspects of alcohol and self-harm

Hunt and Barker emphasize that alcohol is a social, relational, and active phenomenon and alcohol problems and solutions should be seen in this light.(45) It is therefore central to this study to investigate and understand more of how damage or social harm from the use of alcohol affects not only the drinker, but the close social relations and environment of the drinker.(38,47,48)

Power relations and culturally accepted behaviour

Finally, the authors highlight that alcohol consumption is closely linked to power relationships in terms of accepted behaviours in certain social and cultural contexts, including how different social groups or classes fashion and control acceptability of alcohol use and how production and distribution are organized.(45) As part of this study, power relations and alcohol cultures at community levels and alcohol consumption patterns for different social classes will be explored. Additionally, national alcohol policies, production and prevention will also be investigated, thus adding more layers to the analysis of alcohol cultures and power dynamics.

Explanatory models

The mentioned concepts will be investigated through the overall theory of Kleinmann's 'explanatory models',(49) examining how illnesses are understood and dealt with through ethno-cultural lenses,(50) i.e. how individuals and communities make sense of illness, health and suffering.(49) More specifically, explanatory models will be used to investigate how people explain the use of alcohol in relation to self-harm.

Coping with life, alcohol and self-harm

In addition to the concepts drawn from Hunt and Barker, 'coping' is central to this study. According to Lazarus, coping is defined as the way individuals interact with stressors when trying to return to a 'normal' functioning level after a stressful situation(51) and how they manage by minimizing, changing or accepting it.(52) The process of coping is complex and many factors play a role in how alcohol and/or self-harm are coped with or how the behaviours act as actual coping strategies. In fact, alcohol use has been described as a concrete coping mechanism to get through a tough time for farmers in Sri Lanka,(5) while family members at the same time have to cope with the consequences of the alcohol use or the possible subsequent self-harm. Self-harm has also been described as a form of coping, which can be used to change an unwanted situation.(22) These processes and mechanisms of coping will be investigated to understand the dynamics and strategies applied by drinkers and their families in cases of alcohol-related self-harm.

Study setting

The study will mainly be carried out in the Anuradhapura district in the North Central Province, where one of the highest suicide rates in Sri Lanka persists.(53) It is connected to the 'Safe Storage' study, which is a large community-based, cluster randomized control trial, evaluating the effectiveness in storing pesticides safely to reduce self-harm.(54) In the Safe Storage study, 795 cases of self-harm were identified amongst individuals admitted to Anuradhapura Teaching Hospital or 11 peripheral hospitals in a year (2013-2014).

Study design

Extensive quantitative research has been carried out on the topic of self-harm(55–57) and alcohol(34,58) separately in Sri Lanka, however limited qualitative research has been

conducted.(24,59,60) This study responds to this gap by utilizing a qualitative research approach, seeking an in-depth perspective of the individual's and communities' interpretations and perceptions of these phenomena. A range of qualitative methods will be applied: observations; narrative, life-story interviews; focus group discussions (FGDs); and semi-structured, stakeholder interviews.

Inclusion criteria and selection of participants

The first part of the study will include individuals who non-fatally self-harmed and where alcohol played a role in the incident. Either A) the individual was under the influence of alcohol when admitted to hospital (7-10 cases) or B) the incident was sparked by another's alcohol consumption (7-10 cases). We are aware that by choosing this selection strategy, we exclude those who for different reasons did not get admitted to hospital as well as those who fatally self-harmed.

Participants will be sampled through three peripheral hospitals, representing different socio-economic characteristics, agricultural production and history of settlement.(56) The majority of serious self-harm cases from these three hospitals are transferred to Anuradhapura Teaching Hospital and by permission from the Hospital Director, cases being admitted from the three hospitals will be sampled from here. A) and B) will be identified by trained Safe Storage colleagues who are already identifying all self-harm cases within the study area. Possible participants will be asked for both oral and written consent at the hospital, for the study team to contact them minimum one week after they are discharged, at which point informed consent will be repeated and re-obtained.

After interviewing A) and B), they will be asked for consent for the team to talk with their C) significant other(s). Written and oral consent will also be sought from this group.

Approximately 15 cases of A), B), and C) will be interviewed several times (approximately up to three times) and visited for observational sessions, depending on consent from the whole household.

In order to obtain a comprehensive understanding of communities' perceptions of alcohol use and how it relates to self-harm, focus group discussions (FGDs) will be conducted. Participants D) for the FGDs will be selected through snowballing among community members and represent homogenous groups of male and female adults from the selected communities. Participants will not necessarily be from households where alcohol use or self-harm is an issue.

Finally, to examine the environment in which alcohol and self-harm prevention and treatment initiatives, regulations and policies have and will be developed, a stakeholder-analysis will be carried out. The participants E) will be purposively selected from previous data collection and research, as well as through snowballing. New key informants will be added until no more relevant stakeholders can be identified and saturation is reached.

Narrative life-story interviews

In-depth interviews are appropriate when seeking to obtain meaning(61) and get people's own perspective of a situation.(62) For the first objective, the interviews will have a narrative life-story component in order to obtain an understanding of the individual's life, along with the events and decisions that led up to the self-harm incidence. Themes to be

explored include: Perceptions and beliefs of alcohol use and misuse; perceived impact of alcohol use; coping strategies used by alcohol consumers and significant others; and explanatory models of self-harm, including perceived causes. If deemed relevant a timeline will be made in collaboration with the participant to make a visual overview of important events, which can be helpful in encouraging participants to talk while reversing the power-roles between the researcher and the participant.(63)

The narrative life-story interviews will be carried out in face-to-face meetings with A), B) and C) in a quiet place, i.e. in their homes or in another relevant setting, as determined by the participants. The researchers will engage with the participants through series of interviews to construct a comprehensive life-story narrative.

Participant observations

Observations will be key in gaining an in-depth understanding of the local alcohol culture, social structures and interactions. It can help to showcase implicit features of social life, provide context of behaviour,(62) and shed light on non-explicit knowledge.(64) Observations will take place during daily life in selected families observing dynamics; power relations; alcohol consumption in terms of who consumes, when, how much, and what; and strategies employed by family members in regards to alcohol use and previous self-harm. Observations in communities will include observing social organization of communities and people; alcohol selling establishments and how selling and consumption is organized; how alcohol is talked about; and how people react towards intoxicated people. During community observations, the research team will make sure to openly explain the purpose of the research to anyone enquiring and abstain from observing if community members feel disturbed or uncomfortable about the presence of the team.

Focus Group Discussions

FGDs are effective when seeking a broad range of opinions on a topic and it provides the opportunity for participants to probe each other's reasons for holding a specific view.(62) Knowing that this method will bring out group norms of 'what should be',(61) discussion themes will be verbalized as general, non-personal issues. Topics will include general perceptions of alcohol use; reactions towards people who consume alcohol; explanations for use of alcohol; how alcohol is associated with self-harm; and how the community responds to alcohol use and self-harm. In addition, small vignettes covering different scenarios of alcohol in connection with self-harm will be used to spur conversation. Vignettes are particularly useful when exploring sensitive topics, as they can help distance participants from the topic of discussion,(65) which has proven beneficial in other studies on self-harm carried out in Sri Lanka.(5)

Approximately six FGDs will be carried out. Since previous research in Sri Lanka has shown gender differences in alcohol intake and perceptions towards alcohol use(5) they will be held in age and gender-segregated groups, with a maximum of ten participants in each group.

Stakeholder interviews

The stakeholder analysis will follow three main steps as outlined by Varvasovszky and Brugha: 1. identifying and approaching stakeholders; 2. describing stakeholder's positions, responsibilities and collaborations; and 3. diagnosing and suggesting strategies for future interventions.(66) Semi-structured interviews will be conducted with 15-25 stakeholders

who have a stake in the decision making and implementation process(67) related to alcohol and self-harm policies and interventions in Sri Lanka. Some of the themes to be explored include activities carried out on preventing alcohol misuse and/or self-harm; interests in and agendas for prevention of self-harm and controlling of alcohol; means of influencing the agenda, including interrelations with other stakeholders in this area; and past, present and future perspectives.

Stakeholders will include representatives from different organizational layers:

- Producers and traders of alcohol;
- Community representatives (leaders, priests, teachers);
- NGOs (ADIC, Mel Medura, Sumithrayo, FISD and others);
- Academia;
- The health system (public, private and ayurvedic sectors at several levels);
- Government (from ministries of Health; Education; Consumer Welfare; Child Development and Women's Affairs; the National Child Protection Authority and others).

Data management

All interview guides will be translated from English to Sinhala by trained translators and validated by representatives from the larger research group. The interview and FGD guides will be pilot tested in similar informant groups and revised accordingly. Interviews and FGDs will be conducted and facilitated by English/Sinhala speaking research assistants, supported by the first author. All interviews and FGDs will be audio recorded with the informed consent of all participants. The research assistants will carry out verbatim transcriptions of all interviews and FGDs. Field notes will be taken at all occasions.

Observational data will be captured in extensive descriptive field notes and analytical memos, which will be transferred to a software programme on a daily basis and discussed within the research team. These discussions and reflections will be added to the observational notes and serve as important tentative steps of the analysis.

Analysis

Analysis will be inductive and dynamic, starting immediately after the first interviews, FGDs and observations, continuing until the phenomena under study are well understood. It will be informed by the described conceptual framework and rely on a continuous triangulation between the emerging analytical and the pre-defined theoretical concepts in conjunction with the diverse sources of empirical data. The analysis will consequently not be entirely predefined, but reliant on the emerging explanatory models and understandings of alcohol's role in self-harm. The analysis of interview and FGD data will follow the principles of systematic content analysis:(62) The transcripts of the interviews and FGDs will be coded to identify themes, ideas and patterns, and these codes will be grouped into broader themes. During the analysis, the English version will be controlled and compared with the Sinhala transcriptions, in order to ensure inclusion of all relevant context and local matters in the analysis.(68)

ETHICS AND DISSEMINATION

Informed consent

Verbal and written information about the aim of the study will be given in English or Sinhala, as appropriate. In each case, the capacity of the participant to give consent will be assessed– e.g. a highly intoxicated person will not be able to make an informed decision.

Participants will be informed that they can withdraw from the study at any time and that participation – or lack of - will not have negative consequences for them. For the serial, narrative life-story interviews and observations, the continued participation will be verbally reconfirmed at each visit. Participants will be informed that all data collected will be stored safely and only used by researchers, maintaining confidentiality.

Validity

To validate the findings of this study, a long period of field work (minimum 10 months) has been allotted. This extensive time allows for a comprehensive collection of multiple sources of data and an in-depth understanding of the phenomenon under study.(68) A rigorous transcription process with external cross-checks will ensure highest data quality and consistency in definitions of codes and analytical themes.(68) Discrepant information running counter to the themes will also be presented.(69) The use of triangulation at several levels as well as detailed descriptions of the contextual setting of the study will enhance the comprehensiveness of the findings.(70) Finally, co-researchers from different research disciplines will be engaged to discuss the interpretations of the study to ensure that the conclusions resonate with the broader research community.(70)

Reflexivity

In qualitative research, the researchers' background, culture and experiences influence the interpretation of the data.(68) According to Malterud et al, these pre-conceived ideas are a necessary pre-condition for understanding a topic and reflexivity starts by identifying such preconceptions brought into the project by the researchers.(71) This will carefully be considered throughout the study by discussing such preconceptions within the research

team, by maintaining diaries to systematically document and thus enhance trustworthiness and transparency.(69)

Power dynamics

In carrying out qualitative research it is important to be aware of power imbalances between the researcher and the participant, since the former can maintain control and lead the participants in a certain direction. Especially the individuals in group A), B) and C) are at some level vulnerable and marginalized. The research team will comprise local and international researchers, whom in different ways differ from participants, i.e. in terms of sex, socio-economic status and age. Some of these imbalances can be decreased by building trust and avoiding leading questions.(68) Further, the narrative, life-story approach has been chosen to empower the participant to lead the conversation, thereby shifting control.

Ethical considerations

Ethical approval has been obtained from the Ethical Review Committee of the Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka and the study has been reviewed by the Safe Storage research group.

The Helsinki Declaration of 'Good Clinical Practice' will guide the study design and ethical issues will be considered from the outset and throughout the study. Inquiring into other's personal life can be experienced as traumatic, which will be countered by utilizing a sensitive data collection technique. While interviews about previous self-harm impacted participants' feelings, research indicated that the majority felt better afterwards(72) and a study involving family members of individuals who died from suicide showed that sensibly conducted interviews can have a valuable therapeutic effect.(73) However, the interview

situation may still be upsetting and protecting the individual is a priority; i.e. the interviews will be carried out alone, in a setting the participant prefers. To assess the participant's mood and whether the interview has influenced them, a Visual Analogue Scale (VAS) will be administered in which participants rate their mood before and after the interview. This method has been used in similar settings(74) and will assist in identifying individuals who may be at increased risk of repeated self-harm. These participants will be offered more comprehensive support after the interview. Irrespective of the rating on the VAS the importance of seeking support when feeling distressed will be highlighted and all participants will be given information about where to seek help.

Dissemination

At the end of the study, findings will be communicated to the community and disseminated in peer-reviewed, internationally recognized journals in collaboration with Sri Lankan and other partners with maximum visibility for Sri Lankan researchers. Articles will also be submitted to other types of media to increase awareness of the topic.

AUTHORS' CONTRIBUTIONS

JBS drafted the initial manuscript and developed the protocol. TR and FK collaborated on conceptualizing and designing the study and contributed to the draft of the manuscript. BRS provided valuable input to methodology and background information on the study site. MP contributed towards the study set-up, logistics, and methodology. TA contributed to the context, cultural specificities, methodology and ethical considerations. SS furnished information on the structure of health systems, in addition to assisting with ethical and contextual considerations. All authors read and approved the final manuscript.

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COMPETING INTERESTS

The authors declare that they have no competing interests.

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TITLE PAGE

An investigation of alcohol's role in self-harm in rural Sri Lanka: a protocol for a multi-method, qualitative study

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ABSTRACT

Introduction

Sri Lanka has one of the highest suicide and self-harm rates in the world and though alcohol has been found to be a risk factor for self-harm in Sri Lanka, we know little about the connection between the two. This paper comprises a protocol for a qualitative study investigating alcohol's role in self-harm in rural Sri Lanka at three levels: the individual, community and policy level. The analysis will bring new understandings of the link between alcohol and self-harm in Sri Lanka, drawing on structural, cultural and social concepts. It will equip researchers, health systems and policy makers with vital information for developing strategies to address alcohol-related problems as they relate to self-harm.

Methods and analysis

To capture the complexity of the link between alcohol and self-harm in the Anuradhapura district in the North Central Province in Sri Lanka, qualitative methods will be utilized. Specifically, the data will consist of serial narrative life-story interviews with up to 20 individuals who have non-fatally self-harmed and where alcohol directly or indirectly was involved in the incidence as well as with their significant others (>18). Participants will be sampled from hospitals, representing areal diversity in terms of socio-economic and agricultural characteristics and history of settlement; observations in communities and families; six focus group discussions with community members; and key-informant interviews with 15-25 stakeholders who have a stake in alcohol distribution, marketing, policies, prevention and treatment as they relate to self-harm.

Ethics and dissemination

The study has received ethical approval from the Ethical Review Committee of the Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka. A sensitive data collection technique will be used and ethical issues will be considered throughout the study.

Results will be disseminated in scientific peer-reviewed articles in collaboration with Sri Lankan and other international research partners.

STRENGTHS AND LIMITATIONS OF THE STUDY

- The study will provide new knowledge and an increased understanding of an area that has previously received limited research attention – the structural, cultural and social context behind the link between alcohol and self-harm in rural Sri Lanka;
- Quality of the information gathered and comprehensiveness are ensured by collecting data at several levels and through triangulation between data sources, informant groups and theories;
- One limitation of the study is the sensitivity of the issues of alcohol and self-harm, which may limit participation in the study;
- Due to the nature of the methodologies utilized, the results require further studies in order to be transferable to other settings.

INTRODUCTION

Deliberate self-harm and suicide is a serious social, economic and public health issue, being one of the top 20 leading causes of death globally.(1) The issue is particularly pronounced in Asia, where 60% of suicides occur.(2) Though a decrease has been seen in recent years (from 47 per 100,000 population in 1995(3) to 28.8 per 100.000 in 2012 - the latter estimate is based on expert modeling methods),(4) Sri Lanka still has one of the highest suicide and self-harm rates globally.(5) It has been found that problematic alcohol use is often involved in cases of self-harm – either in the one who consumes the alcohol or in someone affected by it.(5–11) With a qualitative approach, this study will explore the structural, social and cultural behaviour surrounding alcohol's role in self-harm at the individual, community and policy level in the Anuradhapura district in the North Central Province in Sri Lanka.

The objectives of this study are to:

(i) Investigate the explanatory models and coping strategies for alcohol use with a focus on its relation with self-harm in households in rural Sri Lanka;

(ii) Investigate community perceptions and responses to alcohol use and its relation with self-harm in rural Sri Lankan communities;

(iii) Investigate stakeholders' involvement, influence on and motivations in controlling harmful effects of alcohol in Sri Lanka with a special focus on preventing self-harm.

Background

Alcohol, self-harm and suicide

International research shows that both acute and chronic alcohol use are associated with suicidal behaviour,(12–17) influenced by access to alcohol in a certain context(15) as well as the amounts consumed.(18) It is well-established that alcohol misuse is not merely an individual or psychological phenomena, but a sociological one that has a profound impact on deviations found in suicidal behaviour.(14,19) The relationship between alcohol and self-harm is complex and seems to vary between genders, cultures and countries.(15,20,21) Problematic alcohol use affects social and family life and poses risks not only for individual dysfunction, but also for relational conflict and family breakdown.(15) Alcohol often acts as a long term risk factor for self-harm, for example through social and financial problems, domestic violence, and effects on mood.(22) However, in the short-term, it may have an acute level effect on the mood and increase the risk for impulsive and destructive behaviour even when misused by individuals without a chronic alcohol problem.(20) Self-harm or suicide may thus be an end point for a long-term or short-term drinker, but a significant other of an alcohol misuser may also deliberately self-harm, in seeking to escape the negative influences of the alcohol.(21,23)

Alcohol, self-harm and suicide in Sri Lanka

It should be noted that the term 'self-harm' is used throughout this paper to describe deliberate injury to one self. This definition captures two important points; that most cases of self-harm in the Sri Lankan context are non-fatal and with little or no intent to die, and can thus not be classified as 'suicide attempts'.(24)

Even though extensive international literature on the relationship between alcohol and self-harm exists, there has been little emphasis on the cultural and behavioural aspects underlying the connection in Sri Lanka. A few researchers have touched on it(7,25–27) and

a Sri Lankan study of 159 acute self-poisoning cases - the most common method of self-harm in Sri Lanka being pesticide poisoning(3) - found that 32% were visibly affected by alcohol when admitted to hospital, which was confirmed by family and bystanders.(7) Another study conducted a psychological autopsy of 372 suicides in rural Sri Lanka to find that problem drinking or alcohol dependence was common among male suicides in 61% of cases while alcohol misuse in another family member contributed to 14% of female suicides.(9) None of these studies thoroughly investigated the dynamics and complex interlinkages between alcohol and self-harm and researchers have called for further investigation of the links between alcohol, impulsive behavior and self-harm in Sri Lanka.(23)

Alcohol use in Sri Lanka

Officially, alcohol consumption is relatively low in Sri Lanka with a per capita intake of 3.7 litres in 2010 (2.2 in 2005), which include the WHO estimate of unrecorded liquor.(17) However, Sri Lankan alcohol consumption data is believed to be inaccurate.(28) Most alcohol consumed is the easily accessible, cheap, unrecorded, and illicitly brewed 'kassipu', mainly consumed in poor, rural areas,(25,29,30) – and difficult to document. Some suggest that up to 50 – 90% of alcohol consumed is illicit (26,30,31) and the actual alcohol consumption level potentially much higher. Further, with a lifetime abstinence rate at a high 69%,(17) many drinkers consume alcohol above the average.

Alcohol consumption in Sri Lanka is almost exclusively a male practise (27) (annual per capita consumption in 2010 was 7.3 litres for males and 0.3 litres for females)(17) and the types of alcohol consumed are closely linked to class and status.(31) Alcohol intoxication in Sri Lanka has primarily been used as a mean to reduce tension, in a moderate degree at

ceremonies, and less so for personal enjoyment.(26,30–32) It predominately takes place for the sole purpose of intoxication.(30,33) A Sri Lankan study of individuals who self-harmed in rural areas found that they regarded drinking as a reasonable response to the stresses of being a farmer.(7) In addition, a self-administered questionnaire amongst young Sri Lankan men found that alcohol was used to dominate surroundings and to become more prominent among peers.(32) However, much remains to be understood about how these motives for alcohol use are linked to cases of self-harm.

Alcohol and its effects on family and social life

Sri Lankan research shows that social harm from alcohol contributes to violence(27) and domestic violence;(34) impacts the family budget and duties; feelings of shame and guilt;(35–37) and instigate self-harm.(7) A UNICEF study among Sri Lankan adolescents found that 18.3% of their fathers drank alcohol and 26.6% of them became violent afterwards.(38) It also seems that self-harm by women and children is often linked to a husband or father's drinking.(27) Such consequences of excessive alcohol use and how it affects family and social life will be investigated in this study to be able to understand the connection between alcohol and self-harm.

Alcohol and self-harm at the community level

Community members' attitudes towards alcohol use may affect how alcohol users, families and communities interact.(39) Societal stigmatization and norms may have a negative influence on the individual and family members(26) but at the same time, the community can play a role in supporting members who have problems related to alcohol use and in cases of self-harm or suicide. This link between the individual and the perceptions of the

close social surroundings will be investigated in terms of how group concepts of alcohol norms, shame and support are relevant for the rural, Sri Lankan setting.

Stakeholders in alcohol and self-harm prevention and interventions

In Sri Lanka, a number of risk factors to self-harm have been addressed by limiting access to the means of self-harm or improving medical management of poisoning through regulations and ban of highly toxic pesticides used for self-poisoning.(40) All though some ad hoc initiatives have been implemented responding to the issue of alcohol, including through taxes and policies (i.e. ban of alcohol commercials at sports events);(41) treatment (a NGO treatment program for alcohol abusers in Colombo);(42) advocacy programmes on the prevention of alcohol misuse;(43) and NGO-led educational programmes,(44,45) there is no thorough evaluation of their effectiveness and alcohol continues to be a major risk factor for self-harm in Sri Lanka. An investigation of the environment in which initiatives are developed is therefore timely.

METHODS AND ANALYSIS

Conceptual framework

The conceptual framework outlined below will guide the analytical process of the study. It builds on the recommendations of Hunt and Barker(46) for carrying out socio-cultural, anthropological research on drugs and alcohol.

Local alcohol and self-harm terminologies

Hunt and Barker urge researchers to examine how societies categorize alcohol use(46) since there is no single definition of 'normal' drinking, problem drinking, misuse or alcohol

dependence that applies equally to all cultures and environments.(47) An open and investigatory approach to the topic will therefore be sought in this study when interacting with individuals and communities, ensuring that they explain their understanding of terms such as alcohol abuse, problem drinking, alcohol-related self-harm and harm to others.

Relational aspects of alcohol and self-harm

Hunt and Barker emphasize that alcohol is a social, relational, and active phenomenon and alcohol problems and solutions should be seen in this light.(46) It is therefore central to this study to investigate and understand more of how damage or social harm from the use of alcohol affects not only the drinker, but the close social relations and environment of the drinker.(39,48,49)

Power relations and culturally accepted behaviour

Finally, the authors highlight that alcohol consumption is closely linked to power relationships in terms of accepted behaviours in certain social and cultural contexts, including how different social groups or classes fashion and control acceptability of alcohol use and how production and distribution are organized.(46) As part of this study, power relations and alcohol cultures at community levels and alcohol consumption patterns for different social classes will be explored. Additionally, national alcohol policies, production and prevention will also be investigated, thus adding more layers to the analysis of alcohol cultures and power dynamics.

Explanatory models

The mentioned concepts will be investigated through the overall theory of Kleinmann's 'explanatory models',(50) examining how illnesses are understood and dealt with through ethno-cultural lenses,(51) i.e. how individuals and communities make sense of illness,

health and suffering.(50) More specifically, explanatory models will be used to investigate how people explain the use of alcohol in relation to self-harm.

Coping with life, alcohol and self-harm

In addition to the concepts drawn from Hunt and Barker, 'coping' is central to this study. According to Lazarus, coping is defined as the way individuals interact with stressors when trying to return to a 'normal' functioning level after a stressful situation(52) and how they manage by minimizing, changing or accepting it.(53) The process of coping is complex and many factors play a role in how alcohol and/or self-harm are coped with or how the behaviours act as actual coping strategies. In fact, alcohol use has been described as a concrete coping mechanism to get through a tough time for farmers in Sri Lanka,(7) while family members at the same time have to cope with the consequences of the alcohol use or the possible subsequent self-harm. Self-harm has also been described as a form of coping, which can be used to change an unwanted situation.(24) These processes and mechanisms of coping will be investigated to understand the dynamics and strategies applied by drinkers and their families in cases of alcohol-related self-harm.

Study setting

The study will mainly be carried out in the Anuradhapura district in the North Central Province, where one of the highest suicide rates in Sri Lanka persists.(54) It is connected to the 'Safe Storage' study, which is a large community-based, cluster randomized control trial, evaluating the effectiveness in storing pesticides safely to reduce self-harm.(55) In the Safe Storage study, 795 cases of self-harm were identified amongst individuals admitted to Anuradhapura Teaching Hospital or 11 peripheral hospitals in a year (2013-

2014).

Study design

Extensive quantitative research has been carried out on the topic of self-harm(56–58) and alcohol(35,59) separately in Sri Lanka, however limited qualitative research has been conducted.(26,60,61) This study responds to this gap by utilizing a qualitative research approach, seeking an in-depth perspective of the individual's and communities' interpretations and perceptions of these phenomena. A range of qualitative methods will be applied: observations; narrative, life-story interviews; focus group discussions (FGDs); and semi-structured, stakeholder interviews.

Inclusion criteria and selection of participants

The first part of the study will include individuals who non-fatally self-harmed and where alcohol played a role in the incident. Either A) the individual was under the influence of alcohol when admitted to hospital (7-10 cases) or B) the incident was sparked by another's alcohol consumption (7-10 cases). We are aware that by choosing this selection strategy, we exclude those who for different reasons did not get admitted to hospital as well as those who fatally self-harmed.

Participants will be sampled through three peripheral hospitals, representing different socio-economic characteristics, agricultural production and history of settlement.(57) The majority of serious self-harm cases from these three hospitals are transferred to Anuradhapura Teaching Hospital and by permission from the Hospital Director, cases being admitted from the three hospitals will be sampled from here. A) and B) will be identified by trained Safe Storage research officers, who are already on a daily basis

identifying all self-harm cases within the study area. Mechanisms for standard reporting and measures of quality insurance have been put into place and their presence are supported at the Province and District levels.

Possible participants will be asked for both oral and written consent at the hospital, for the study team to contact them minimum one week after they are discharged, at which point informed consent will be repeated and re-obtained.

After interviewing A) and B), they will be asked for consent for the team to talk with their C) significant other(s). Written and oral consent will also be sought from this group.

Approximately 15 cases of A), B), and C) will be interviewed several times (approximately up to three times) and visited for observational sessions, depending on consent from the whole household.

In order to obtain a comprehensive understanding of communities' perceptions of alcohol use and how it relates to self-harm, focus group discussions (FGDs) will be conducted. Participants D) for the FGDs will be selected through snowballing among community members and represent homogenous groups of male and female adults from the selected communities. Participants will not necessarily be from households where alcohol use or self-harm is an issue.

Finally, to examine the environment in which alcohol and self-harm prevention and treatment initiatives, regulations and policies have and will be developed, a stakeholder-analysis will be carried out. The participants E) will be purposively selected from previous

data collection and research, as well as through snowballing. New key informants will be added until no more relevant stakeholders can be identified and saturation is reached.

Narrative life-story interviews

In-depth interviews are appropriate when seeking to obtain meaning(62) and get people's own perspective of a situation.(63) For the first objective, the interviews will have a narrative life-story component in order to obtain an understanding of the individual's life, along with the events and decisions that led up to the self-harm incidence. Themes to be explored include: Perceptions and beliefs of alcohol use and misuse; alcohol preferences; availability and access to alcohol; perceived impact of alcohol use; coping strategies used by alcohol consumers and significant others; and explanatory models of self-harm, including perceived causes. If deemed relevant a timeline will be made in collaboration with the participant to make a visual overview of important events, which can be helpful in encouraging participants to talk while reversing the power-roles between the researcher and the participant.(64)

The narrative life-story interviews will be carried out in face-to-face meetings with A), B) and C) in a quiet place, i.e. in their homes or in another relevant setting, as determined by the participants. The researchers will engage with the participants through series of interviews to construct a comprehensive life-story narrative.

Participant observations

Observations will be key in gaining an in-depth understanding of the local alcohol culture, social structures and interactions. It can help to showcase implicit features of social life, provide context of behaviour,(63) and shed light on non-explicit knowledge.(65)

Observations will take place during daily life in selected families observing dynamics; power relations; alcohol consumption in terms of who consumes, when, how much, and what; and strategies employed by family members in regards to alcohol use and previous self-harm. Observations in communities will include observing social organization of communities and people; alcohol selling establishments and how selling and consumption is organized; how alcohol is talked about; and how people react towards intoxicated people. During community observations, the research team will make sure to openly explain the purpose of the research to anyone enquiring and abstain from observing if community members feel disturbed or uncomfortable about the presence of the team.

Focus Group Discussions

FGDs are effective when seeking a broad range of opinions on a topic and it provides the opportunity for participants to probe each other's reasons for holding a specific view.(63) Knowing that this method will bring out group norms of 'what should be',(62) discussion themes will be verbalized as general, non-personal issues. Topics will include general perceptions of alcohol use; reactions towards people who consume alcohol; explanations for use of alcohol; how alcohol is associated with self-harm; and how the community responds to alcohol use and self-harm. In addition, small vignettes covering different scenarios of alcohol in connection with self-harm will be used to spur conversation. Vignettes are particularly useful when exploring sensitive topics, as they can help distance participants from the topic of discussion,(66) which has proven beneficial in other studies on self-harm carried out in Sri Lanka.(7)

Approximately six FGDs will be carried out. Since previous research in Sri Lanka has shown gender differences in alcohol intake and perceptions towards alcohol use(7) they

will be held in age and gender-segregated groups, with a maximum of ten participants in each group.

Stakeholder interviews

The stakeholder analysis will follow three main steps as outlined by Varvasovszky and Brugha: 1. identifying and approaching stakeholders; 2. describing stakeholder's positions, responsibilities and collaborations; and 3. diagnosing and suggesting strategies for future interventions.(67) Semi-structured interviews will be conducted with 15-25 stakeholders who have a stake in the decision making and implementation process(68) related to alcohol and self-harm policies and interventions in Sri Lanka. Some of the themes to be explored include activities carried out on preventing alcohol misuse and/or self-harm; interests in and agendas for prevention of self-harm and controlling of alcohol; means of influencing the agenda, including interrelations with other stakeholders in this area; and past, present and future perspectives.

Stakeholders will include representatives from different organizational layers:

- Producers and traders of alcohol;
- Community representatives (leaders, priests, teachers);
- NGOs (ADIC, Mel Medura, Sumithrayo, FISD and others);
- Academia;
- The health system (public, private and ayurvedic sectors at several levels);
- Government (from ministries of Health; Education; Consumer Welfare; Child Development and Women's Affairs; the National Child Protection Authority and others).

Data management

All interview guides will be translated from English to Sinhala by trained translators and validated by representatives from the larger research group. The interview and FGD guides will be pilot tested in similar informant groups and revised accordingly. Interviews and FGDs will be conducted and facilitated by English/Sinhala speaking research assistants, supported by the first author. All interviews and FGDs will be audio recorded with the informed consent of all participants. The research assistants will carry out verbatim Sinhala transcriptions of all interviews and FGDs, which will then be translated into English. Field notes will be taken at all occasions. Observational data will be captured in extensive descriptive field notes and analytical memos, which will be transferred to a software programme on a daily basis and discussed within the research team. These discussions and reflections will be added to the observational notes and serve as important tentative steps of the analysis.

Analysis

Analysis will be inductive and dynamic, starting immediately after the first interviews, FGDs and observations, continuing until the phenomena under study are well understood. It will be informed by the described conceptual framework and rely on a continuous triangulation between the emerging analytical and the pre-defined theoretical concepts in conjunction with the diverse sources of empirical data. The analysis will consequently not be entirely predefined, but reliant on the emerging explanatory models and understandings of alcohol's role in self-harm. The analysis of interview and FGD data will follow the principles of systematic content analysis:(63) The transcripts of the interviews and FGDs will be coded to identify themes, ideas and patterns, and these codes will be grouped into broader themes. During the analysis, the English version will be controlled

and compared with the Sinhala transcriptions, in order to ensure inclusion of all relevant context and local matters in the analysis.(69)

ETHICS AND DISSEMINATION

Informed consent

Verbal and written information about the aim of the study will be given in English or Sinhala, as appropriate. In each case, the capacity of the participant to give consent will be assessed– e.g. a highly intoxicated person will not be able to make an informed decision. Participants will be informed that they can withdraw from the study at any time and that participation – or lack of - will not have negative consequences for them. For the serial, narrative life-story interviews and observations, the continued participation will be verbally reconfirmed at each visit. Participants will be informed that all data collected will be stored safely and only used by researchers, maintaining confidentiality.

Validity

To validate the findings of this study, a long period of field work (minimum 10 months) has been allotted. This extensive time allows for a comprehensive collection of multiple sources of data and an in-depth understanding of the phenomenon under study.(69) A rigorous transcription process with external cross-checks will ensure highest data quality and consistency in definitions of codes and analytical themes.(69) Discrepant information running counter to the themes will also be presented.(70) The use of triangulation at several levels as well as detailed descriptions of the contextual setting of the study will enhance the comprehensiveness of the findings.(71) Finally, co-researchers from different

research disciplines will be engaged to discuss the interpretations of the study to ensure that the conclusions resonate with the broader research community.(71)

Reflexivity

In qualitative research, the researchers' background, culture and experiences influence the interpretation of the data.(69) According to Malterud et al, these pre-conceived ideas are a necessary pre-condition for understanding a topic and reflexivity starts by identifying such preconceptions brought into the project by the researchers.(72) This will carefully be considered throughout the study by discussing such preconceptions within the research team, by maintaining diaries to systematically document and thus enhance trustworthiness and transparency.(70)

Power dynamics

In carrying out qualitative research it is important to be aware of power imbalances between the researcher and the participant, since the former can maintain control and lead the participants in a certain direction. Especially the individuals in group A), B) and C) are at some level vulnerable and marginalized. The research team will comprise local and international researchers, whom in different ways differ from participants, i.e. in terms of sex, socio-economic status and age. Some of these imbalances can be decreased by building trust and avoiding leading questions.(69) Further, the narrative, life-story approach has been chosen to empower the participant to lead the conversation, thereby shifting control.

Ethical considerations

Ethical approval has been obtained from the Ethical Review Committee of the Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka and the study has been reviewed by the Safe Storage research group.

The Helsinki Declaration of 'Good Clinical Practice' will guide the study design and ethical issues will be considered from the outset and throughout the study. Inquiring into other's personal life can be experienced as traumatic, which will be countered by utilizing a sensitive data collection technique. While interviews about previous self-harm impacted participants' feelings, research indicated that the majority felt better afterwards(73) and a study involving family members of individuals who died from suicide showed that sensibly conducted interviews can have a valuable therapeutic effect.(74) However, the interview situation may still be upsetting and protecting the individual is a priority; i.e. the interviews will be carried out alone, in a setting the participant prefers. To assess the participant's mood and whether the interview has influenced them, a Visual Analogue Scale (VAS) will be administered in which participants rate their mood before and after the interview. This method has been used in similar settings(75) and will assist in identifying individuals who may be at increased risk of repeated self-harm. These participants will be offered more comprehensive support after the interview. Irrespective of the rating on the VAS the importance of seeking support when feeling distressed will be highlighted and all participants will be given information about where to seek help.

Dissemination

At the end of the study, findings will be communicated to the community and disseminated in peer-reviewed, internationally recognized journals in collaboration with Sri Lankan and

other partners with maximum visibility for Sri Lankan researchers. Articles will also be submitted to other types of media to increase awareness of the topic.

AUTHORS' CONTRIBUTIONS

JBS drafted the initial manuscript and developed the protocol. TR and FK collaborated on conceptualizing and designing the study and contributed to the draft of the manuscript. BRS provided valuable input to methodology and background information on the study site. MP contributed towards the study set-up, logistics, and methodology. TA contributed to the context, cultural specificities, methodology and ethical considerations. SS furnished information on the structure of health systems, in addition to assisting with ethical and contextual considerations. All authors read and approved the final manuscript.

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COMPETING INTERESTS

The authors declare that they have no competing interests.

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TITLE PAGE

An investigation of alcohol's role in self-harm in rural Sri Lanka: a protocol for a multi-method, qualitative study

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ABSTRACT

Introduction

Sri Lanka has one of the highest suicide and self-harm rates in the world and though alcohol has been found to be a risk factor for self-harm in Sri Lanka, we know little about the connection between the two. This paper comprises a protocol for a qualitative study investigating alcohol's role in self-harm in rural Sri Lanka at three levels: the individual, community and policy level. The analysis will bring new understandings of the link between alcohol and self-harm in Sri Lanka, drawing on structural, cultural and social concepts. It will equip researchers, health systems and policy makers with vital information for developing strategies to address alcohol-related problems as they relate to self-harm.

Methods and analysis

To capture the complexity of the link between alcohol and self-harm in the Anuradhapura district in the North Central Province in Sri Lanka, qualitative methods will be utilized. Specifically, the data will consist of serial narrative life-story interviews with up to 20 individuals who have non-fatally self-harmed and where alcohol directly or indirectly was involved in the incidence as well as with their significant others (>18). Participants will be sampled from hospitals, representing areal diversity in terms of socio-economic and agricultural characteristics and history of settlement; observations in communities and families; six focus group discussions with community members; and key-informant interviews with 15-25 stakeholders who have a stake in alcohol distribution, marketing, policies, prevention and treatment as they relate to self-harm.

Ethics and dissemination

The study has received ethical approval from the Ethical Review Committee of the Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka. A sensitive data collection technique will be used and ethical issues will be considered throughout the study.

Results will be disseminated in scientific peer-reviewed articles in collaboration with Sri Lankan and other international research partners.

STRENGTHS AND LIMITATIONS OF THE STUDY

- The study will provide new knowledge and an increased understanding of an area that has previously received limited research attention – the structural, cultural and social context behind the link between alcohol and self-harm in rural Sri Lanka;
- Quality of the information gathered and comprehensiveness are ensured by collecting data at several levels and through triangulation between data sources, informant groups and theories;
- One limitation of the study is the sensitivity of the issues of alcohol and self-harm, which may limit participation in the study;
- Due to the nature of the methodologies utilized, the results require further studies in order to be transferable to other settings.

INTRODUCTION

Deliberate self-harm and suicide is a serious social, economic and public health issue, being one of the top 20 leading causes of death globally.(1) The issue is particularly pronounced in Asia, where 60% of suicides occur.(2) Though a decrease has been seen in recent years (from 47 per 100,000 population in 1995(3) to 28.8 per 100.000 in 2012 - the latter estimate is based on expert modeling methods),(4) Sri Lanka still has one of the highest suicide and self-harm rates globally.(5) It has been found that problematic alcohol use is often involved in cases of self-harm – either in the one who consumes the alcohol or in someone affected by it.(5–11) With a qualitative approach, this study will explore the structural, social and cultural behaviour surrounding alcohol's role in self-harm at the individual, community and policy level in the Anuradhapura district in the North Central Province in Sri Lanka.

The objectives of this study are to:

(i) Investigate the explanatory models and coping strategies for alcohol use with a focus on its relation with self-harm in households in rural Sri Lanka;

(ii) Investigate community perceptions and responses to alcohol use and its relation with self-harm in rural Sri Lankan communities;

(iii) Investigate stakeholders' involvement, influence on and motivations in controlling harmful effects of alcohol in Sri Lanka with a special focus on preventing self-harm.

Background

Alcohol, self-harm and suicide

International research shows that both acute and chronic alcohol use are associated with suicidal behaviour,(12–17) influenced by access to alcohol in a certain context(15) as well as the amounts consumed.(18) It is well-established that alcohol misuse is not merely an individual or psychological phenomena, but a sociological one that has a profound impact on deviations found in suicidal behaviour.(14,19) The relationship between alcohol and self-harm is complex and seems to vary between genders, cultures and countries.(15,20,21) Problematic alcohol use affects social and family life and poses risks not only for individual dysfunction, but also for relational conflict and family breakdown.(15) Alcohol often acts as a long term risk factor for self-harm, for example through social and financial problems, domestic violence, and effects on mood.(22) However, in the short-term, it may have an acute level effect on the mood and increase the risk for impulsive and destructive behaviour even when misused by individuals without a chronic alcohol problem.(20) Self-harm or suicide may thus be an end point for a long-term or short-term drinker, but a significant other of an alcohol misuser may also deliberately self-harm, in seeking to escape the negative influences of the alcohol.(21,23)

Alcohol, self-harm and suicide in Sri Lanka

It should be noted that the term 'self-harm' is used throughout this paper to describe deliberate injury to one self. This definition captures two important points; that most cases of self-harm in the Sri Lankan context are non-fatal and with little or no intent to die, and can thus not be classified as 'suicide attempts'.(24)

Even though extensive international literature on the relationship between alcohol and self-harm exists, there has been little emphasis on the cultural and behavioural aspects underlying the connection in Sri Lanka. A few researchers have touched on it(7,25–27) and

a Sri Lankan study of 159 acute self-poisoning cases - the most common method of self-harm in Sri Lanka being pesticide poisoning(3) - found that 32% were visibly affected by alcohol when admitted to hospital, which was confirmed by family and bystanders.(7) Another study conducted a psychological autopsy of 372 suicides in rural Sri Lanka to find that problem drinking or alcohol dependence was common among male suicides in 61% of cases while alcohol misuse in another family member contributed to 14% of female suicides.(9) None of these studies thoroughly investigated the dynamics and complex interlinkages between alcohol and self-harm and researchers have called for further investigation of the links between alcohol, impulsive behavior and self-harm in Sri Lanka.(23)

Alcohol use in Sri Lanka

Officially, alcohol consumption is relatively low in Sri Lanka with a per capita intake of 3.7 litres in 2010 (2.2 in 2005), which include the WHO estimate of unrecorded liquor.(17) However, Sri Lankan alcohol consumption data is believed to be inaccurate.(28) Most alcohol consumed is the easily accessible, cheap, unrecorded, and illicitly brewed 'kassipu', mainly consumed in poor, rural areas,(25,29,30) – and difficult to document. Some suggest that up to 50 – 90% of alcohol consumed is illicit (26,30,31) and the actual alcohol consumption level potentially much higher. Further, with a lifetime abstinence rate at a high 69%,(17) many drinkers consume alcohol above the average.

Alcohol consumption in Sri Lanka is almost exclusively a male practise (27) (annual per capita consumption in 2010 was 7.3 litres for males and 0.3 litres for females)(17) and the types of alcohol consumed are closely linked to class and status.(31) Alcohol intoxication in Sri Lanka has primarily been used as a mean to reduce tension, in a moderate degree at

ceremonies, and less so for personal enjoyment.(26,30–32) It predominately takes place for the sole purpose of intoxication.(30,33) A Sri Lankan study of individuals who self-harmed in rural areas found that they regarded drinking as a reasonable response to the stresses of being a farmer.(7) In addition, a self-administered questionnaire amongst young Sri Lankan men found that alcohol was used to dominate surroundings and to become more prominent among peers.(32) However, much remains to be understood about how these motives for alcohol use are linked to cases of self-harm.

Alcohol and its effects on family and social life

Sri Lankan research shows that social harm from alcohol contributes to violence(27) and domestic violence;(34) impacts the family budget and duties; feelings of shame and guilt;(35–37) and instigate self-harm.(7) A UNICEF study among Sri Lankan adolescents found that 18.3% of their fathers drank alcohol and 26.6% of them became violent afterwards.(38) It also seems that self-harm by women and children is often linked to a husband or father's drinking.(27) Such consequences of excessive alcohol use and how it affects family and social life will be investigated in this study to be able to understand the connection between alcohol and self-harm.

Alcohol and self-harm at the community level

Community members' attitudes towards alcohol use may affect how alcohol users, families and communities interact.(39) Societal stigmatization and norms may have a negative influence on the individual and family members(26) but at the same time, the community can play a role in supporting members who have problems related to alcohol use and in cases of self-harm or suicide. This link between the individual and the perceptions of the

close social surroundings will be investigated in terms of how group concepts of alcohol norms, shame and support are relevant for the rural, Sri Lankan setting.

Stakeholders in alcohol and self-harm prevention and interventions

In Sri Lanka, a number of risk factors to self-harm have been addressed by limiting access to the means of self-harm or improving medical management of poisoning through regulations and ban of highly toxic pesticides used for self-poisoning.(40) All though some ad hoc initiatives have been implemented responding to the issue of alcohol, including through taxes and policies (i.e. ban of alcohol commercials at sports events);(41) treatment (a NGO treatment program for alcohol abusers in Colombo);(42) advocacy programmes on the prevention of alcohol misuse;(43) and NGO-led educational programmes,(44,45) there is no thorough evaluation of their effectiveness and alcohol continues to be a major risk factor for self-harm in Sri Lanka. An investigation of the environment in which initiatives are developed is therefore timely.

METHODS AND ANALYSIS

Conceptual framework

The conceptual framework outlined below will guide the analytical process of the study. It builds on the recommendations of Hunt and Barker(46) for carrying out socio-cultural, anthropological research on drugs and alcohol.

Local alcohol and self-harm terminologies

Hunt and Barker urge researchers to examine how societies categorize alcohol use(46) since there is no single definition of 'normal' drinking, problem drinking, misuse or alcohol

dependence that applies equally to all cultures and environments.(47) An open and investigatory approach to the topic will therefore be sought in this study when interacting with individuals and communities, ensuring that they explain their understanding of terms such as alcohol abuse, problem drinking, alcohol-related self-harm and harm to others.

Relational aspects of alcohol and self-harm

Hunt and Barker emphasize that alcohol is a social, relational, and active phenomenon and alcohol problems and solutions should be seen in this light.(46) It is therefore central to this study to investigate and understand more of how damage or social harm from the use of alcohol affects not only the drinker, but the close social relations and environment of the drinker.(39,48,49)

Power relations and culturally accepted behaviour

Finally, the authors highlight that alcohol consumption is closely linked to power relationships in terms of accepted behaviours in certain social and cultural contexts, including how different social groups or classes fashion and control acceptability of alcohol use and how production and distribution are organized.(46) As part of this study, power relations and alcohol cultures at community levels and alcohol consumption patterns for different social classes will be explored. Additionally, national alcohol policies, production and prevention will also be investigated, thus adding more layers to the analysis of alcohol cultures and power dynamics.

Explanatory models

The mentioned concepts will be investigated through the overall theory of Kleinmann's 'explanatory models',(50) examining how illnesses are understood and dealt with through ethno-cultural lenses,(51) i.e. how individuals and communities make sense of illness,

health and suffering.(50) More specifically, explanatory models will be used to investigate how people explain the use of alcohol in relation to self-harm.

Coping with life, alcohol and self-harm

In addition to the concepts drawn from Hunt and Barker, 'coping' is central to this study. According to Lazarus, coping is defined as the way individuals interact with stressors when trying to return to a 'normal' functioning level after a stressful situation(52) and how they manage by minimizing, changing or accepting it.(53) The process of coping is complex and many factors play a role in how alcohol and/or self-harm are coped with or how the behaviours act as actual coping strategies. In fact, alcohol use has been described as a concrete coping mechanism to get through a tough time for farmers in Sri Lanka,(7) while family members at the same time have to cope with the consequences of the alcohol use or the possible subsequent self-harm. Self-harm has also been described as a form of coping, which can be used to change an unwanted situation.(24) These processes and mechanisms of coping will be investigated to understand the dynamics and strategies applied by drinkers and their families in cases of alcohol-related self-harm.

Study setting

The study will mainly be carried out in the Anuradhapura district in the North Central Province, where one of the highest suicide rates in Sri Lanka persists.(54) It is connected to the 'Safe Storage' study, which is a large community-based, cluster randomized control trial, evaluating the effectiveness in storing pesticides safely to reduce self-harm.(55) In the Safe Storage study, 795 cases of self-harm were identified amongst individuals admitted to Anuradhapura Teaching Hospital or 11 peripheral hospitals in a year (2013-

2014).

Study design

Extensive quantitative research has been carried out on the topic of self-harm(56–58) and alcohol(35,59) separately in Sri Lanka, however limited qualitative research has been conducted.(26,60,61) This study responds to this gap by utilizing a qualitative research approach, seeking an in-depth perspective of the individual's and communities' interpretations and perceptions of these phenomena. A range of qualitative methods will be applied: observations; narrative, life-story interviews; focus group discussions (FGDs); and semi-structured, stakeholder interviews.

Inclusion criteria and selection of participants

The first part of the study will include individuals who non-fatally self-harmed and where alcohol played a role in the incident. Either A) the individual was under the influence of alcohol when admitted to hospital (7-10 cases) or B) the incident was sparked by another's alcohol consumption (7-10 cases). We are aware that by choosing this selection strategy, we exclude those who for different reasons did not get admitted to hospital as well as those who fatally self-harmed.

Participants will be sampled through three peripheral hospitals, representing different socio-economic characteristics, agricultural production and history of settlement.(57) The majority of serious self-harm cases from these three hospitals are transferred to Anuradhapura Teaching Hospital and by permission from the Hospital Director, cases being admitted from the three hospitals will be sampled from here. A) and B) will be identified by trained Safe Storage research officers, who are already on a daily basis

identifying all self-harm cases within the study area. Mechanisms for standard reporting and measures of quality insurance have been put into place and their presence are supported at the Province and District levels.

Possible participants will be asked for both oral and written consent at the hospital, for the study team to contact them minimum one week after they are discharged, at which point informed consent will be repeated and re-obtained.

After interviewing A) and B), they will be asked for consent for the team to talk with their C) significant other(s). Written and oral consent will also be sought from this group.

Approximately 15 cases of A), B), and C) will be interviewed several times (approximately up to three times) and visited for observational sessions, depending on consent from the whole household.

In order to obtain a comprehensive understanding of communities' perceptions of alcohol use and how it relates to self-harm, focus group discussions (FGDs) will be conducted. Participants D) for the FGDs will be selected through snowballing among community members and represent homogenous groups of male and female adults from the selected communities. Participants will not necessarily be from households where alcohol use or self-harm is an issue.

Finally, to examine the environment in which alcohol and self-harm prevention and treatment initiatives, regulations and policies have and will be developed, a stakeholder-analysis will be carried out. The participants E) will be purposively selected from previous

data collection and research, as well as through snowballing. New key informants will be added until no more relevant stakeholders can be identified and saturation is reached.

Narrative life-story interviews

In-depth interviews are appropriate when seeking to obtain meaning(62) and get people's own perspective of a situation.(63) For the first objective, the interviews will have a narrative life-story component in order to obtain an understanding of the individual's life, along with the events and decisions that led up to the self-harm incidence. Themes to be explored include: Perceptions and beliefs of alcohol use and misuse; alcohol preferences; availability and access to alcohol; perceived impact of alcohol use; coping strategies used by alcohol consumers and significant others; and explanatory models of self-harm, including perceived causes. If deemed relevant a timeline will be made in collaboration with the participant to make a visual overview of important events, which can be helpful in encouraging participants to talk while reversing the power-roles between the researcher and the participant.(64)

The narrative life-story interviews will be carried out in face-to-face meetings with A), B) and C) in a quiet place, i.e. in their homes or in another relevant setting, as determined by the participants. The researchers will engage with the participants through series of interviews to construct a comprehensive life-story narrative.

Participant observations

Observations will be key in gaining an in-depth understanding of the local alcohol culture, social structures and interactions. It can help to showcase implicit features of social life, provide context of behaviour,(63) and shed light on non-explicit knowledge.(65)

Observations will take place during daily life in selected families observing dynamics; power relations; alcohol consumption in terms of who consumes, when, how much, and what; and strategies employed by family members in regards to alcohol use and previous self-harm. Observations in communities will include observing social organization of communities and people; alcohol selling establishments and how selling and consumption is organized; how alcohol is talked about; and how people react towards intoxicated people. During community observations, the research team will make sure to openly explain the purpose of the research to anyone enquiring and abstain from observing if community members feel disturbed or uncomfortable about the presence of the team.

Focus Group Discussions

FGDs are effective when seeking a broad range of opinions on a topic and it provides the opportunity for participants to probe each other's reasons for holding a specific view.(63) Knowing that this method will bring out group norms of 'what should be',(62) discussion themes will be verbalized as general, non-personal issues. Topics will include general perceptions of alcohol use; reactions towards people who consume alcohol; explanations for use of alcohol; how alcohol is associated with self-harm; and how the community responds to alcohol use and self-harm. In addition, small vignettes covering different scenarios of alcohol in connection with self-harm will be used to spur conversation. Vignettes are particularly useful when exploring sensitive topics, as they can help distance participants from the topic of discussion,(66) which has proven beneficial in other studies on self-harm carried out in Sri Lanka.(7)

Approximately six FGDs will be carried out. Since previous research in Sri Lanka has shown gender differences in alcohol intake and perceptions towards alcohol use(7) they

will be held in age and gender-segregated groups, with a maximum of ten participants in each group.

Stakeholder interviews

The stakeholder analysis will follow three main steps as outlined by Varvasovszky and Brugha: 1. identifying and approaching stakeholders; 2. describing stakeholder's positions, responsibilities and collaborations; and 3. diagnosing and suggesting strategies for future interventions.(67) Semi-structured interviews will be conducted with 15-25 stakeholders who have a stake in the decision making and implementation process(68) related to alcohol and self-harm policies and interventions in Sri Lanka. Some of the themes to be explored include activities carried out on preventing alcohol misuse and/or self-harm; interests in and agendas for prevention of self-harm and controlling of alcohol; means of influencing the agenda, including interrelations with other stakeholders in this area; and past, present and future perspectives.

Stakeholders will include representatives from different organizational layers:

- Producers and traders of alcohol;
- Community representatives (leaders, priests, teachers);
- NGOs (ADIC, Mel Medura, Sumithrayo, FISD and others);
- Academia;
- The health system (public, private and ayurvedic sectors at several levels);
- Government (from ministries of Health; Education; Consumer Welfare; Child Development and Women's Affairs; the National Child Protection Authority and others).

Data management

All interview guides will be translated from English to Sinhala by trained translators and validated by representatives from the larger research group. The interview and FGD guides will be pilot tested in similar informant groups and revised accordingly. Interviews and FGDs will be conducted and facilitated by English/Sinhala speaking research assistants, supported by the first author. All interviews and FGDs will be audio recorded with the informed consent of all participants. The research assistants will carry out verbatim Sinhala transcriptions of all interviews and FGDs, which will then be translated into English. Field notes will be taken at all occasions. Observational data will be captured in extensive descriptive field notes and analytical memos, which will be transferred to a software programme on a daily basis and discussed within the research team. These discussions and reflections will be added to the observational notes and serve as important tentative steps of the analysis.

Analysis

Analysis will be inductive and dynamic, starting immediately after the first interviews, FGDs and observations, continuing until the phenomena under study are well understood. It will be informed by the described conceptual framework and rely on a continuous triangulation between the emerging analytical and the pre-defined theoretical concepts in conjunction with the diverse sources of empirical data. The analysis will consequently not be entirely predefined, but reliant on the emerging explanatory models and understandings of alcohol's role in self-harm. The analysis of interview and FGD data will follow the principles of systematic content analysis:(63) The transcripts of the interviews and FGDs will be coded to identify themes, ideas and patterns, and these codes will be grouped into broader themes. During the analysis, the English version will be controlled

and compared with the Sinhala transcriptions, in order to ensure inclusion of all relevant context and local matters in the analysis.(69)

ETHICS AND DISSEMINATION

Informed consent

Verbal and written information about the aim of the study will be given in English or Sinhala, as appropriate. In each case, the capacity of the participant to give consent will be assessed– e.g. a highly intoxicated person will not be able to make an informed decision. Participants will be informed that they can withdraw from the study at any time and that participation – or lack of - will not have negative consequences for them. For the serial, narrative life-story interviews and observations, the continued participation will be verbally reconfirmed at each visit. Participants will be informed that all data collected will be stored safely and only used by researchers, maintaining confidentiality.

Validity

To validate the findings of this study, a long period of field work (minimum 10 months) has been allotted. This extensive time allows for a comprehensive collection of multiple sources of data and an in-depth understanding of the phenomenon under study.(69) A rigorous transcription process with external cross-checks will ensure highest data quality and consistency in definitions of codes and analytical themes.(69) Discrepant information running counter to the themes will also be presented.(70) The use of triangulation at several levels as well as detailed descriptions of the contextual setting of the study will enhance the comprehensiveness of the findings.(71) Finally, co-researchers from different

research disciplines will be engaged to discuss the interpretations of the study to ensure that the conclusions resonate with the broader research community.(71)

Reflexivity

In qualitative research, the researchers' background, culture and experiences influence the interpretation of the data.(69) According to Malterud et al, these pre-conceived ideas are a necessary pre-condition for understanding a topic and reflexivity starts by identifying such preconceptions brought into the project by the researchers.(72) This will carefully be considered throughout the study by discussing such preconceptions within the research team, by maintaining diaries to systematically document and thus enhance trustworthiness and transparency.(70)

Power dynamics

In carrying out qualitative research it is important to be aware of power imbalances between the researcher and the participant, since the former can maintain control and lead the participants in a certain direction. Especially the individuals in group A), B) and C) are at some level vulnerable and marginalized. The research team will comprise local and international researchers, whom in different ways differ from participants, i.e. in terms of sex, socio-economic status and age. Some of these imbalances can be decreased by building trust and avoiding leading questions.(69) Further, the narrative, life-story approach has been chosen to empower the participant to lead the conversation, thereby shifting control.

Ethical considerations

Ethical approval has been obtained from the Ethical Review Committee of the Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka and the study has been reviewed by the Safe Storage research group.

The Helsinki Declaration of 'Good Clinical Practice' will guide the study design and ethical issues will be considered from the outset and throughout the study. Inquiring into other's personal life can be experienced as traumatic, which will be countered by utilizing a sensitive data collection technique. While interviews about previous self-harm impacted participants' feelings, research indicated that the majority felt better afterwards(73) and a study involving family members of individuals who died from suicide showed that sensibly conducted interviews can have a valuable therapeutic effect.(74) However, the interview situation may still be upsetting and protecting the individual is a priority; i.e. the interviews will be carried out alone, in a setting the participant prefers. To assess the participant's mood and whether the interview has influenced them, a Visual Analogue Scale (VAS) will be administered in which participants rate their mood before and after the interview. This method has been used in similar settings(75) and will assist in identifying individuals who may be at increased risk of repeated self-harm. These participants will be offered more comprehensive support after the interview. Irrespective of the rating on the VAS the importance of seeking support when feeling distressed will be highlighted and all participants will be given information about where to seek help.

Dissemination

At the end of the study, findings will be communicated to the community and disseminated in peer-reviewed, internationally recognized journals in collaboration with Sri Lankan and

other partners with maximum visibility for Sri Lankan researchers. Articles will also be submitted to other types of media to increase awareness of the topic.

AUTHORS' CONTRIBUTIONS

JBS drafted the initial manuscript and developed the protocol. TR and FK collaborated on conceptualizing and designing the study and contributed to the draft of the manuscript. BRS provided valuable input to methodology and background information on the study site. MP contributed towards the study set-up, logistics, and methodology. TA contributed to the context, cultural specificities, methodology and ethical considerations. SS furnished information on the structure of health systems, in addition to assisting with ethical and contextual considerations. All authors read and approved the final manuscript.

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COMPETING INTERESTS

The authors declare that they have no competing interests.

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