Change in treatment coverage, barriers to care and factors associated with help-seeking behaviour of adults with depression and alcohol use disorder in Chitwan district, Nepal

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Declaration

I hereby declare that this MPhil thesis entitle **"Change in treatment coverage, barriers to care and factors associated with help-seeking behaviour of adults with depression and alcohol use disorder in Chitwan district Nepal",** was carried out by me for the degree of Masters of Philosophy in Public Mental Health under the guidance of Prof. Crick Lund and Dr. Emily Garman from University of Cape Town. The work on which this dissertation is based is my original work (except where acknowledgements indicate otherwise) and neither the whole work nor any part of it has been, is being, or is to be used for other purposes.

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Nagendra Prasad Luitel

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Abstract

Introduction: Globally, there is a substantial gap between the number of individuals in need of mental health care and those who receive treatment. It is reported that 86.3% people with anxiety, mood or substance disorders in low and middle-income countries (LMICs) received no treatment in the 12 months preceding the survey. The Programme for improving mental health care (PRIME) aims to generate new evidence on implementation and scale up of mental health programs in primary health care settings to minimize this enormous treatment gap on mental health care, especially in the LMICs. The aim of this study was to report on the change in treatment coverage, barriers and other factors associated with help-seeking behaviour of adults with depression and alcohol use disorder (AUD) in Chitwan district, Nepal before and three years after implementation of the PRIME district mental health care plan (MHCP).

Methods: The study was conducted in 10 Village Development Committees of Chitwan district in southern Nepal. The repeat population-based cross-sectional community survey applied a random sampling technique to select 1983 and 1499 adults in the baseline and the follow-up survey, respectively. The Patient Health Questionnaire (PHQ-9) and Alcohol Use Disorder Identification Test (AUDIT) were used to screen people with depression and AUD. Barriers for seeking mental health care were assessed by using a standardized tool, the Barriers to Care Evaluation Scale (BACE).

Results: Overall, 11.7% (n=13) people with depression in the follow-up survey reported that they had received mental health treatment from any provider in the 12 months preceding the survey; this proportion was not significantly different from the proportion reported at the baseline (n=18; 8.1%; $\chi 2=1.02$, p=0.424). Similarly, the proportion of the participants receiving treatment for AUD from any provider at the follow-up survey (n=9; 10.3%) was also not significantly different than that found at baseline (n=5; 5.1%; $\chi 2=1.68$, p=0.235). Significant reductions were found in the overall BACE score (p=0.004) and the specific BACE domains scores pertaining to financial barriers (p<0.001); stigma (p=0.004) and lack of support (p<0.001) in the follow-up survey among participants with depression. In the AUD group, there was also a significant reduction between the baseline and follow-up survey in the overall BACE score (p=0.011) and the specific BACE domains scores pertaining to financial barriers (p<0.001) and lack of support (p<0.001). There was no association between socio-demographic characteristics and help seeking behaviour of the participants at the follow-up survey. Participants who reported greater cultural practices and beliefs were less likely (OR 0.65, 95% CI 0.46 – 0.92) to receive mental health care compared to those who reported less cultural beliefs and practices (p=0.015).

Conclusion: The study found non-significant improvements in treatment coverage and significant reductions in barriers to mental health care following implementation of the PRIME district mental health care plan. The non-significant improvements in the treatment coverage could be explained by a number of potential factors, including lack of targeted community level interventions for specific barriers in the PRIME MHCP, the distal nature of the outcome in relation to the intervention, and the small number of screen positive participants. The key areas for improvement in the implementation of the district mental health care plan include establishment of confidential place for consultation in each health facility and targeted community awareness and sensitization programmes to improve help-seeking attitudes, intention and behaviour..

Keywords: Mental health, treatment coverage, barriers to care, stigma, Nepal

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Acronyms

ANC:	Antenatal Care
AUDIT:	Alcohol Use Disorder Identification Test
AUD:	Alcohol Use Disorder
BACE:	Barriers to Accessing Care Evaluation Scale
CIDT:	Community Informant Detection Tool
DALY:	Disability Adjusted Life Years
DFID:	Department for International Development
DoHS:	Department of Health Services
DPHO:	District Public Health Office
FCHV:	Female Community Health Volunteer
FGD:	Focus Group Discussion
HP:	Health Post
LMIC:	Low and Middle Income Countries
mhGAP:	mental health Gap Action Programme
MHCP:	Mental Health Care Plan
M.-Phil.:	Master of Philosophy
MNS:	Mental, Neurological and Substance Use
MoHP:	Ministry of Health and Population
NGO:	Non-Governmental Organization
PHCC:	Primary Health Care Centre
PHQ9:	Patient Health Questionnaire
PNC:	Postnatal Care
PRIME:	PRogramme for Improving Mental Health CarE
PTSD:	Posttraumatic Stress Disorder
SHP:	Sub-health Post
TPO:	Transcultural Psychosocial Organization
UCT:	University of Cape Town
VDC:	Village Development Committee
WHO:	World Health Organization

CHAPTER ONE: INTRODUCTION

Globally, mental, neurological and substance use (MNS) disorders are one of the leading causes of disability, contributing to 10.4% of global disability adjusted life years (DALYs) (Whiteford, Ferrari, Degenhardt, Feigin, & Vos, 2015). MNS disorders are also considered as significant risk factors contributing to pre-mature deaths (Patel et al., 2016), and often result in adverse social and economic consequences (Dua et al., 2011). Among the MNS disorders, depression and alcohol use disorder (AUD) are reported to be the second and third leading causes of years lived with disability (Ferrari et al., 2013; Lim et al., 2012; Vos et al., 2012). While, there is an increasing evidence base of cost-effective interventions for mental health problems, it is reported that more than half (56%) of people with depression (De Silva et al., 2014) and 87% people with alcohol abuse and dependence do not receive any treatment (Kohn, Saxena, Levav, & Saraceno, 2004). The most common factors hindering mental health care utilization include low perceived needs, stigma and discrimination associated with mental illness, lack of awareness about the available services, inability to afford the treatment cost, poor identification and referral system, shortage of human resources, beliefs around mental illness, and lack of effective treatment (Ali & Agyapong, 2016; Demyttenaere et al., 2004; Edlund, Unutzer, & Curran, 2006; Murphy, Chikovani, Uchaneishvili, Makhashvili, & Roberts, 2018; Saraceno et al., 2007; Shidhaye & Kermode, 2013; van Beljouw et al., 2010).

In Nepal, few studies have been conducted in the area of mental health. Most of the prior studies have focused on estimating prevalence of mental health problems, particularly the mental health problems of populations affected by conflict and other humanitarian crises. The available data shows a wide range of reported prevalence of depression (14.0% to 80.0%), anxiety (22.9% to 81.0%), and posttraumatic stress disorder (PTSD) (3.0%% to 60.0%) (Kohrt et al., 2012; Luitel et al., 2013; Tol et al., 2010). Few studies have attempted to estimate treatment coverage for mental health care among individuals suffering from such disorders. A recent study conducted among adults in Chitwan district (southern Nepal), however, reported a very large treatment gap for depression (91.5%) and alcohol use disorder (94.9%) (Rathod et al., 2016). In this study, most adults who sought care received treatment from traditional providers, such as traditional healers or religious leaders (3.4% for DD and 4.5% for AUD) followed by mental health specialists (1.8% for DD and 0% for AUD) and generalist health workers (i.e. Medical Officers, Health Assistants and Auxiliary Health Workers in primary care) (1.7% for DD and 1.3% for AUD). There were variations in treatment contact coverage across gender among individuals with depression, but not among individuals with AUD. For example, a greater proportion of depressed males received care from specialists (male 4.5% vs female 2.9%) and generalists (male 1.8% vs female 1.6%), while a greater proportion of depressed females (6.0%) received treatment from traditional providers compared to their male counterparts (0.5%) (Rathod et al., 2016). The most commonly reported barriers to treatment were inability to afford care, fear of being perceived as weak for having mental health problems, fear of being perceived as crazy and being too unwell to ask for support (Luitel, Jordans, Kohrt, Rathod, & Komproe, 2017).

Over the past decade, several initiatives have been taken globally to minimize the treatment gap for mental health problems. One of the most widely used approaches is task-sharing approach which involves specialist mental health workers (psychiatrists and psychologists) in designing and managing mental health services, building clinical capacity of the primary and community health care workers to provide direct mental health care services and providing supervision and quality control of mental health services (Eaton et al., 2011; Patel, 2009). On a similar note, the World health organization (WHO) launched the mental health Gap Action Programme (mhGAP) with the aim of facilitating the delivery of evidence-based intervention by non-specialist health care workers through integration of mental health into primary health care system (WHO, 2008).

A substantial number of studies have been conducted on help-seeking behaviour of people with mental health problems in high income settings; however, predictors for mental health service use remain poorly understood in LMICs. A recent systematic review of help-seeking interventions of the studies conducted in high income countries reported that perceived stigma and embarrassment, poor mental health literacy, and preference for self-reliance were the most important barriers for help-seeking services for common mental disorders (Gulliver, Griffiths, Christensen, & Brewer, 2012). Similarly, a study conducted in Zurich, Switzerland reported that positive attitudes towards mental health care, higher mental health literacy and more perceived needs predicted help-seeking behaviour for mental health problems (Bonabi et al., 2016). These results have also been supported by a study conducted in Western Europe (Codony et al., 2009) and the European Study of Epidemiology of Mental Disorder (ten Have et al., 2010) where low perceived needs for treatment, and negative attitudes towards mental health services were found to be strongly associated with poor help-seeking. Similarly, a study conducted among general population in Singapore also reported positive association between ability to correctly recognise mental illness and preference of help-seeking from mental health professionals (Picco et al., 2018). Moreover, a study conducted in the USA also reported that perceived needs for mental health care predicted service use decision. The results indicated that people with mental health problems did not think that they need help, so they are unlikely to receive care (Blumenthal & Endicott, 1996). These results are also supported by the recent systematic review and meta-analysis where negative personal attitudes and higher personal stigma were significantly associated with less active help-seeking for mental health problems (Schnyder, Panczak, Groth, & Schultze-Lutter, 2017). Another systematic review and meta-analysis of high income country studies found a positive relationship between greater mental health literacy, particularly the biological model of mental illness and greater help-seeking with mental health professionals (G. Schomerus et al., 2012).

From the above studies, it is evident that making mental health services available (i.e. reducing supply side barriers) is not necessarily sufficient to reduce the mental health treatment gap. One of the potential strategies for improving treatment coverage on mental health care could be to reduce demand side barriers. Most of the above studies have also recommended the need for improving mental health knowledge, attitude and perception by organizing public campaigns and targeted anti-stigma programs (Picco et al., 2018; Schnyder et al., 2017). However, some of the prior studies found mixed results on the effectiveness of community awareness and sensitization programs for improving treatment coverage. For example, a study conducted in India and Pakistan showed a significant improvement in the treatment coverage on mental health care in India, while the results were not promising in Pakistan (James et al., 2002). On the other hand, a community survey in central India demonstrated a significant improvement in treatment coverage for depression after an 18-months interval (Shidhaye et al., 2017), while a study conducted in Madhya Pradesh did not find significant impact of community level interventions to improve contact coverage (Shidhaye et al., 2019).

In 2011, a consortium of research institutions and Ministries of Health in five countries in Asia (Nepal and India) and Africa (South Africa, Uganda and Ethiopia) was established to generate new evidence on implementation and scale up of mental health programs in primary health care settings: the PRogramme for Improving Mental health carE (PRIME) (Lund et al., 2012). As part of PRIME, a district mental health care plan (MHCP) was developed and implemented in Chitwan, a district in Southern Nepal. The MHCP consisted of intervention packages to be delivered at community, health facility and health organization platforms (Jordans, Luitel, Pokhrel, & Patel, 2016). The community level intervention packages included community sensitization, mental health case detection and community counselling, as well as adherence support through home-based care (Jordans et al., 2016). The health facility-level packages included training and supervision for health workers in detection, diagnoses and initiation of both psychosocial and pharmacological treatment, and referrals to specialized care following the WHO mhGAP Intervention Guide. The PRIME has used the UK Medical Research Council's complex intervention framework and the theory of change (ToC) approach along with a variety of qualitative and quantitative methods to evaluate the acceptability and effectiveness of mental health services in primary care.

Considering the large treatment gap for both depression and AUD, and the elevated perceived barriers for seeking mental health services in the baseline community survey (Luitel et al., 2017), PRIME Nepal implemented community based intervention packages in order to increase mental health service utilization. The community level activities included mass sensitization programs in each community, training to Female Community Health Volunteers (FCHVs) on proactive community detection using Community Informant Detection Tool (CIDT) (Subba, Luitel, Kohrt, & Jordans, 2017), focused psychosocial counselling through a new cadre of community counsellors and adherence to support through homebased care (Jordans et al., 2016).

The evaluation of the PRIME district mental health care plan was carried out using multiple methods which included measuring change in population level treatment contact coverage; change in detection and initiation of evidence-based treatment, and change in health and socio-economic outcomes of people receiving treatment from primary health clinics (De Silva et al., 2016). More specifically, to assess the changes in population-level contact coverage, mental health knowledge, attitudes and behaviour, and barriers to seek mental health services, a community survey was conducted before and three years after the implementation of the PRIME MHCP. The baseline and follow-up community survey data collected from the PRIME community survey in Nepal has been used in this study in order to report on the change in treatment coverage, barriers and other factors associated with help-seeking behaviour of adults with depression and alcohol use disorder before and three years after implementation of PRIME. This study builds on the Rathod et al study, which reports only the baseline findings from the community survey in Nepal and the other three PRIME countries (Rathod et al., 2016).

CHAPTER TWO: LITERATURE REVIEW

This chapter provides a review of the literature on the treatment gap on mental health care, recent initiatives to minimize the treatment gap and barriers to seeking mental health care. A structured literature review was conducted to identify evidence on barriers to mental health care in LMICs specifically. Based on the structured literature review and PRIME’s evaluation design, a conceptual framework was developed to present a hypothesized mechanisms of change in help-seeking behaviour among people with depression and alcohol use disorder in low-resource settings such as Nepal.

2.1 Treatment gap on mental health care

Common mental health problems such as depression and anxiety are largely treatable and potentially preventable (Barrera, Torres, & Munoz, 2007). Timely and appropriate help-seeking is therefore particularly important for early detection, treatment and recovery from mental disorders (Dawson, Grant, Stinson, & Chou, 2006). However, there is a substantial gap between the number of individuals in need of mental health care and those who actually receive treatment. The recent WHO world mental health survey reported that 86.3% people with anxiety, mood or substance disorders in lower-middle-income countries received no treatment in the past 12 months (Evans-Lacko et al., 2018). It is also reported that more than 80% of people who have mental disorders live in LMICs (WHO, 2004). On the other hand, among people who receive treatment for mental health conditions, only few receive adequate treatment (Wang et al., 2007). For example, a recent study conducted in 21 countries found that one out of 27 persons living with depressive disorder in LMICs receives minimally adequate treatment (Thornicroft et al., 2017). Likewise, it is also found that people with mental illness often seek help from informal sources such as friends or family members rather than formal sources such as doctors, psychiatrists or psychologists (Rickwood & Braithwaite, 1994; Rickwood, Deane, & Wilson, 2007). Lack of service resources has been reported as one of the most important factors for the greater treatment gap on mental health care, especially in LMICs. Saxena and colleagues highlighted that shortage of mental health professional such as psychiatrists, psychiatric nurses, psychologists, and social workers as key contributing factors for hindering mental health treatment in most LMICs (Saxena, Thornicroft, Knapp, & Whiteford, 2007). Similarly, lack of trained mental health workers, insufficient supervision and lack of essential psychotropic medicines have been reported by the international leaders as key barriers to overcome mental health treatment gap in LMICs (Saraceno et al., 2007). Stigma associated with mental illness has been also reported to be more prevalent in the LMICs, and among vulnerable populations such as those living in poverty, women and ethnic minorities (Thornicroft et al., 2010).

In Nepal, most of the prior studies have focused on estimating prevalence of mental health problems, particularly the mental health problems of populations affected by conflict and other humanitarian crises. A recent study among adults with depression and alcohol use disorder reported a very large treatment gap for depression (91.5%) and alcohol use disorder (94.9%) (Rathod et al., 2016). The large treatment gap on mental health care in Nepal could be explained by the unequal distribution of mental health resources (both human and financial resources) and scarcity of population-wide mental health services in most part of the country. It is reported that there are only 0.22 psychiatrists and 0.06 psychologists per 100,000 populations in Nepal and formal mental health services are restricted in few hospitals located in the big cities (Luitel et al., 2015). Community mental health programs have been initiated by both government and NGOs but due to frequent transfer of the trained health workers, lack of supervision and infrequent medicine supply, these services are not available regularly (Luitel et al., 2015; N. Upadhaya et al., 2014)

2.2 Recent initiatives to reduce the treatment gap

Studies conducted in high income countries reported that treating mental disorders and other non-communicable diseases (NCDs) together, using a collaborative care model, is more effective and cost effective than treating mental disorders separately (Archer et al., 2012). However, only few studies have been conducted to assess the effectiveness of collaborative care models for treating mental health problems in LMICs. Considering the current scarcity and unequal distribution of specialist mental health workers in the

LMICs, the collaborative care model may not be an appropriate strategy to overcome the tremendous treatment gap on mental health in the LMICs. In the recent years, a great deal of evidence has been generated indicating that mental health services can be delivered effectively by trained community and primary health care workers through community-based programs (Cohen, 2001; Mutamba, van Ginneken, Smith Paintain, Wandiembe, & Schellenberg, 2013; Patel et al., 2010). Reduction of mental health stigma; improved access to care; reduced chronicity of the problems; protection of human rights of mentally ill persons, and producing better outcomes and care than that provided in psychiatric hospitals, are argued to be important advantages for providing mental health services through primary and community health care system (WHO & Wonca, 2008).

Recently, the World Health Organization (WHO) has developed the Mental Health Gap Action Program (mhGAP) with the aim of scaling up services for MNS disorders, especially in the LMICs (WHO, 2008). The mhGAP intervention guide (IG) has been developed based on the integrated care approach which consists of intervention packages for both prevention and management of priority mental disorders (WHO, 2010). The mhGAP-IG comprises user-friendly, diagnosis-specific clinical guidelines for providing evidence-based practices (EBPs). The mhGAP approach has been found to be an effective strategy where there is a shortage of specialist mental health human resources. mhGAP follows task sharing approaches where non-specialists are trained to identify and initiate evidence-based treatment across a spectrum of nine priority mental, neurological, and substance use disorders (WHO, 2010). Although, the mhGAP-IG has not been evaluated systematically (Keynejad, Dua, Barbui, & Thornicroft, 2018), this approach has been reported to be effective in both training and clinical practices in many LMICs (Abdulmalik, Kola, & Fadahunsi, 2013; Gureje et al., 2015; Jordans, Aldridge, Luitel, Baingana, & Kohrt, 2017; Siriwardhana, Adikari, Jayaweera, Abeyrathna, & Sumathipala, 2016). The mhGAP approach has been an important step towards addressing one of the core factors contributing to the treatment gap - lack of service resources in LMICs.

2.3 Barriers to mental health care in HICs

Despite an increase in the availability of mental health services through various approaches such as mhGAP, there remain major barriers to mental health service utilization. For example, studies conducted in high-income settings reported poor mental health literacy, low perceived needs and negative attitudes towards mental health services as important predictors for poor mental health services utilization (Jorm, 2012). Similarly, perceived public stigma, personal stigma and self-stigma have been also reported to be important predictors for not seeking mental health services. It is found that people with high stigma reported to have low perceived needs for help (Jennings et al., 2015; Kanehara, Umeda, & Kawakami, 2015; Preville et al., 2015). The recent meta-analysis revealed that out of the four stigma types: self-stigma, personal stigma, general stigma and help-seeking stigma, only two stigma types i.e. negative help seeking attitudes, and higher personal stigma were associated with less active help seeking (Schnyder et al., 2017). Likewise, people with strong public and self-stigma were found to be more interested in handling the problems themselves (Andrade et al., 2014). In addition to this, a meta-analysis and systematic review reported a strong positive association between greater mental health literacy, particularly towards a biological model of mental illness and greater acceptance of professional help for mental health problems. However, it is reported that increasing public understanding of a biological model of mental illness is not necessarily helpful in improving negative attitudes towards people with mental illness (G. Schomerus et al., 2012).

In LMICs, most of the research attention has been given to making mental health services available through task-sharing approaches; however, little is known about the barriers to mental health care and help-seeking behaviour among people with mental health problems, even when mental health services are available in the community.

2.4 Structured literature review of barriers to mental health care in LMICs

2.4.1 Methods of the structured literature review

A structured literature review was conducted as a requirement for the MPhil in Public Mental Health at UCT in order to identify literature relating to barriers to mental health care in LMICs. The inclusion criteria for the structured literature review included studies (1) reporting barriers to mental health care (2) conducted in LMICs (3) using both qualitative and quantitative methods (4) not restricted by publication date (5) reporting common mental disorders (CMDs) and alcohol use disorder (AUD), (6) examining adult populations (18 years or above) and (7) published in the English language. Literature was searched on the electronic bibliographic database Pubmed on 16th April 2018 using the main search terms: mental health problems or depression or alcohol use disorder and treatment, services and care and treatment gap and barriers, stigma and low- and middle-income countries. The main search terms were individually combined with the terms “Mental health problems” OR “Depression” OR “Alcohol Use Disorder” AND “Treatment” OR “Services” OR “Care” AND “Treatment gap” AND “Barriers” OR “Stigma” AND “Low and middle income countries” to search literature related to barriers to mental health care. Studies reporting severe mental illness were excluded from the review.

Several steps were followed to screen and review the identified publications. First, all the studies that were identified after entering the key search terms were screened by title, and the results of the search were imported into endnote to remove duplicate results. Second, the remaining studies were screened by their title against the inclusion criteria, and the titles which did not meet inclusion criteria were removed manually. Third, all the abstracts of the remaining studies were reviewed, and the abstracts which did not meet the inclusion criteria were removed. Fourth, a full text of the potentially eligible studies was accessed through the online library of the University of Cape Town and WHO Hinari programme. Finally, full texts of all potentially eligible studies were reviewed thoroughly and excluded if the studies which did not include barriers to mental health care or has included severe mental illness only.

2.4.2 Results from the structured literature review

In total, 284 articles were found in the structured literature search, of which 7 were duplicate studies, and excluded. Of the total 271 non-duplicate studies, 154 were removed after a careful review of the titles. Out of 117 potentially eligible titles, 86 were excluded after reviewing the abstract. Finally, full texts of the 31 studies were reviewed and 13 non-relevant studies (i.e. 3 studies with no any information about the barriers to mental health care, 1 commentary, 8 systematic reviews from HICs/perspective articles and 1 study reporting severe mental illness) were excluded. Please refer to the PRISMA flow diagram in **appendix-I** for detail. Of the total 18 studies included in the structured review, 12 were qualitative studies and 6 were quantitative studies. Tables 1 and 2 present a summary of the qualitative and quantitative studies included in the structured review. Given the different epistemological assumptions and paradigms of qualitative and quantitative research, and the diversity of study populations included in the qualitative and quantitative studies, the results of the qualitative and quantitative studies are presented separately under the same barrier themes.

Table 1 Summary of the qualitative studies (N=12) included in the structured review

Authors	Year	Title of the study	Country	Identified barriers to mental health care
Atif et al	2016	Barefoot therapists: barriers and facilitators to delivering maternal mental health care through peer volunteers in Pakistan: a qualitative study	Pakistan	• Stigma • Low perceived need • Cultural practice and beliefs
Brenman et al	2014	Demand and access to mental health services: a qualitative formative study in Nepal	Nepal	• Stigma • Cultural practice and beliefs • Lack of knowledge on mental health problems • Lack of knowledge about mental health services • Lack of services and resources • Perceived ineffectiveness of the services • Low/no detection
Egbe et al	2014	Psychiatric stigma and discrimination in South Africa: perspectives from key stakeholders	South Africa	• Cultural practices and beliefs • Stigma • Lack of knowledge about mental health problems
Goldstone and Bantjes	2017	Mental health care providers' perceptions of the barriers to suicide prevention amongst people with substance use disorders in South Africa: a qualitative study	South Africa	• Stigma • Lack of services and resources • Lack of support • Financial barriers • Perceived ineffectiveness of the services
Gurung et al	2017	Service user and care giver involvement in mental health system strengthening in Nepal: a qualitative study on barriers and facilitating factors	Nepal	• Stigma • Financial barriers/Cost of care
Kapungwe et al	2010	Mental illness--stigma and discrimination in Zambia	Zambia	• Stigma • Financial barriers/Cost of care • Cultural practices and beliefs
Maulik et al	2017	Evaluation of an anti-stigma campaign related	India	• Lack of knowledge about the

Authors	Year	Title of the study	Country	Identified barriers to mental health care
		to common mental disorders in rural India: a mixed methods approach		available mental health services • Lack of support • Stigma • Cultural practices and beliefs • Lack of services and resources
Nakku et al	2016	Perinatal mental health care in a rural African district, Uganda: a qualitative study of barriers, facilitators and needs	Uganda	• Stigma • Lack of support • Cultural practices and beliefs • Lack of knowledge on mental health problems • Financial barriers • Lack of services and resources • Perceived ineffectiveness of the services • Low/No detection
Petersen et	2017	Strengthening mental health system governance in six low- and middle-income countries in Africa and South Asia: challenges, needs and potential strategies	Nepal, India, Uganda, Ethiopia, Nigeria and South Africa	• Lack of resources and services • Financial barriers/Cost of care • Stigma • Lack of knowledge about mental health • Perceived ineffectiveness of the services • Cultural practices and beliefs
Petersen et al	2011	Lessons from case studies of integrating mental health into primary health care in South Africa and Uganda	Uganda and South Africa	• Lack of mental health services
Sessions et al	2017	Mental illness in Bwindi, Uganda: Understanding stakeholder perceptions of benefits and barriers to developing a community-based mental health programme	Uganda	• Cultural practices and beliefs • Financial barriers/Cost for care
Ssebunnya et al	2009	Stakeholder perceptions of mental health stigma and poverty in Uganda	Uganda	• Financial barriers/Cost of care • Stigma • Cultural practices and beliefs

Table 2 Summary of the quantitative studies (N=6) included in the structured review

Authors	Year	Title of the study	Country	Identified barriers to mental health care
Ayazi et al	2014	Community attitudes towards the mentally ill in South Sudan: a survey from post conflict setting with no mental health service	South Sudan	• Stigma
Evans-Lacko et al	2018	Socio-economic variations in the mental health treatment gap for people with anxiety, mood, and substance use disorders: results from the WHO World Mental Health (WMH) surveys	LMICs and HIC	• Financial barriers
James et al	2002	Demand for, access to and use of community mental health care: lessons from a demonstration project in India and Pakistan.	India and Pakistan	• Stigma • Perceived ineffectiveness of the services • Financial barriers/Cost of care
Kapungwe et al	2011	Attitudes of primary health care providers towards people with mental illness: evidence from two districts in Zambia	Zambia	• Stigma
Luitel et al	2017	Treatment gap and barriers for mental health care: A cross-sectional community survey in Nepal	Nepal	• Stigma • Lack of support • Low perceived needs • Financial barriers • Lack of knowledge about the mental health services • Perceived ineffectiveness of the services • Cultural practice and beliefs
Sathyanath et al	2016	Socially restrictive attitudes towards people with mental illness among the non-psychiatry medical professionals in a university teaching hospital in South India	India	• Stigma • Financial barriers

The studies included in the structured review present a wide range of barriers for seeking mental health care which are summarized into 10 broad categories: stigma; financial barriers; cultural practices and beliefs; lack of services; low perceived need; lack of knowledge on mental health problems; lack of knowledge about mental health services; lack of support; perceived ineffectiveness of mental health services and low/no detection. Below I have described each barrier separately in detail. I have summarized results from the qualitative studies first, followed by the results from the quantitative studies.

2.4.2.1 Stigma and discrimination

Stigma towards, and discrimination against people with mental illness has been reported as one of the major barriers for seeking mental health services in most of the reviewed studies. Studies have documented that mental health stigma was not prevalent among the general community; it was also commonly reported among service providers. A study conducted among the general community members in Andhra Pradesh of India reported that the majority of the study participants in the pre-intervention study thought that people with mental illness tend to be violent and they cannot lead a rewarding life. This perception has significantly been changed in the post intervention study (Maulik et al., 2017). Similarly, pregnant women and mothers having a child less than 3-months in Rawalpindi, Pakistan also reported that they were reluctant for receiving peer-delivered maternal mental health services due to a huge stigma associated with mental illness (Atif et al., 2016). In a qualitative study, a wide range of mental health stakeholders in Uganda have also shared their experiences on how stigma associated with mental illness prevents mental health treatment. They reported that stigmatization can be more destructive and disabling than the illness itself, and this can also be a major obstacle to seek mental health services in Uganda (Ssebunnya, Kigozi, Lund, Kizza, & Okello, 2009). Likewise, the general community in Uganda had strong beliefs that mothers with mental illness are bewitched and they are useless, therefore, one should not waste time for providing mental health services for such people (Nakku et al., 2016). Mental health care providers who were working with suicidal people with substance use disorder (SAD) in Cape Town, South Africa reported that due to a huge stigma associated with both suicide and substance use disorder, it was a big challenge for them to prevent suicidal ideation among those having suicidal ideation and substance use disorder. They also reported that community perceptions towards people with substance use disorder and suicidal ideation were very negative in Cape Town. According to the mental health care providers, people in the community have a strong belief that an individual who uses substances is not a human being, and a person who commits suicide goes to “hell” (Goldstone & Bantjes, 2017). Likewise, another qualitative study conducted with health care providers and service users in Cape Town reported that both internalized and externalized stigma were important barriers for seeking mental health care among people with depression and schizophrenia. The most commonly reported internalized stigma was thinking that “what other people would say or think” if they know mental illness of service users. Commonly reported externalized stigma included “making fun of service users” at clinics or shouting at them by using stigmatized words such as “lunatic” or “mad” (Egbe et al., 2014). Furthermore, similar results have been reported in a qualitative study conducted with a wide range of stakeholders in Zambia. The Zambia study reported that stigma associated with mental illness was not prevailing only within the general community; it was also widespread among general and mental health care providers, and government personnel. The study also revealed that not only people with mental health problems are stigmatized but stigma also transcends to family members (Kapungwe et al., 2010).

Stigma associated with mental health service providers was also found to be an important barrier for seeking mental health care in various LMICs. For example, a study conducted with a wide range of policy makers in six countries from Asia and Africa (i.e. Uganda, South Africa, Nigeria, Nepal, India and Ethiopia) agreed that negative attitudes of service providers towards people with mental illness are one of the important supply side barriers for seeking mental health care across all countries (Petersen et al., 2017). Similarly, key community stakeholders and policy makers in Nepal also pointed out that mental health stigma was very high among high economic and caste groups, and level of education was not associated with being more informed or empathetic towards people with mental illness (Brenman, Luitel, Mall, & Jordans, 2014). Likewise, a recent qualitative study conducted among service users and caregivers in Nepal also found that due to stigma and discrimination associated with mental illness, service users had a fear of identifying themselves as people with mental health illness (Gurung et al., 2017).

As with the qualitative studies, the quantitative studies have also reported stigma towards mental health problems as a barrier to mental health care. An evaluation study of a community mental health program in India and Pakistan reported that feelings of embarrassment (20% in India and 49% in Pakistan) was one of the strong demand side barriers for accessing mental health care in the baseline study (James et al., 2002). Participants in a cross-sectional community survey conducted among 1200 adults in Southern Sudan also endorsed a very high stigma and negative attitude towards people with mental illness. Of the total, 41.6% reported that they were afraid of speaking with people who have mental illness, 80% of them believed that people with mental illness are dangerous, and 90% were not ready to marry a person with mental illness (Ayazi, Lien, Eide, Shadar, & Hauff, 2014). Similarly, a study conducted with medical professionals (faculty members and postgraduate trainees) in Southern India reported that a significant number of the medical professionals had negative attitude, especially socially restrictive attitudes towards people with mental illness. About 9.6% of the faculty members and 21.2% of the trainees had a belief that people with mental illness are a burden in the society (Sathyanath, Mendonsa, Thattil, Chandran, & Karkal, 2016). Similarly, a wide spread stigma associated with primary health care workers who are supposed to be in the front line of staff in delivery of mental health care in the primary health care units, has been reported as one of the primary obstacles for integration of mental health services in primary care in Zambia (Kapungwe et al., 2011).

As like other LMICs, stigma associated with mental illness was also reported as one of the important barriers in seeking mental health care by adults with depression and alcohol use disorder in southern Nepal. It was reported that out of 5 major barriers for treatment of depression and AUD, three barriers were related to stigma and discrimination. The most commonly reported stigma related barriers were fear of being perceived as “weak” for having mental health problems, fear of being perceived as “crazy” and dislike of talking about own feelings, emotions or thoughts (Luitel et al., 2017).

Most of the studies included in the structured review have described in detail how stigma impacted mental health service utilization; however, only a few studies have described the types of stigma assessed in those studies. Stigma reported in these studies has been categorized into two broad types: social stigma and self or perceived stigma. The frequently reported social stigma included stigmatizing attitudes and behaviours of general community, health care providers, family members and relatives toward people with mental illness. For example, it is found that in general, community members perceived that people with mental illness are dangerous, violent and unpredictable; therefore, they were reluctant to be near those people. Similarly, people with mental health problems were also found to be labelled by different stigmatizing words such as crazy, stupid, mad, psycho, and weak (Atif et al., 2017; Gurung et al., 2017; Kapungwe et al., 2011; Kapungwe et al., 2010; Nakku et al., 2016; Petersen et al., 2017; Sessions et al., 2017). In addition to these, in many cases health workers also felt insecure to treat people with mental health problems thinking that they are violent and unpredictable (Kapungwe et al., 2010), and people with mental health problems were also deprived of wages from their employment or restricted to enter shopping centres (Egbe et al., 2014). In few studies, it was also reported that community members use socially unacceptable words for people with mental illness such as “they are not human” or “they are not a person”; community members also perceived that they should not be provided responsibilities, should not get married or cannot lead rewarding life (Goldstone & Bantjes, 2017; Maulik et al., 2017). In some studies it was found that general community members perceived mentally ill persons as “burden of the society” and did not wish to live next to a mentally ill person’s home (Sathyanath et al., 2016). The common misconceptions of the general community were that mentally ill persons are possessed by evil spirits or paying a price for their bad deeds in a previous life (Ssebunnya et al., 2009). In a few studies, family members reported that they felt “ashamed” if there is mentally ill person in the family and a mentally ill person was also perceived to disturb the work environment (Ayazi et al., 2014).

Similarly, the commonly reported self or perceived stigma included fear of being identified as people with mental illness, fear of being perceived as “weak” for having mental problems, fear of being perceived as “crazy”; feeling embarrassed or ashamed; concern that what other people think or say if they know and fear of being stigmatized (Egbe et al., 2014; Gurung et al., 2017; Kapungwe et al., 2010; Luitel et al., 2017; Petersen, Ssebunnya, Bhana, & Baillie, 2011).

2.4.2.2 Cultural practices and beliefs

Cultural practices and beliefs are also reported to be important causes of delays in getting professional treatment in many LMICs. A qualitative study conducted with 50 key stakeholders in Zambia reported very strong community beliefs and negative attitudes towards people with mental illness. The study participants reported that most of the people in the community and some health care providers had a strong belief that mental illness are contagious and transmittable, and mentally ill people are also dangerous. It was also found that organizations who provide mental health care believed that a bite from a mentally ill patient may cause other people to be mentally ill. These misconceptions and beliefs among service providers has also raised a concern on the quality of services provided by such providers in Zambia (Kapungwe et al., 2010). Similarly, how an individual’s perceptions and belief systems obstruct help-seeking behaviour of people with mental illness has been reported by a range of stakeholders in Uganda. The findings indicate that the community members perceived mental illness to be due to “evil spirits” or “bad deeds” from previous life, therefore, treatments were not perceived to be effective for those problems. The study also reported a strong community belief in mental health treatment provided by traditional and faith healers rather than health care providers (Ssebunnya et al., 2009). Likewise, primary health care staff, husbands, and mother-in-law in Pakistan reported that depressed mothers are possessed by evil-eyes so instead of taking medicines or other form of treatment they suggested to go for Talisman (a traditional treatment method) (Atif et al., 2016). Furthermore, cultural practices and beliefs have also been found one of the important demand side barriers for accessing mental health care in Ethiopia, Nepal, Nigeria and Uganda. The key stakeholders in these countries reported that community members in general prefer traditional practices or alternative methods of healing even when their problems are severe (Petersen et al., 2017). Likewise, the service providers and service users in South Africa reported that community members often seek mental health care from local traditional healers (Sangomas) before visiting clinics because of their belief system about the causes of mental health problems (Egbe et al., 2014). Cultural practices and beliefs, especially the beliefs about the causes of mental illness in pregnancy and post-natal period, have been found to be an important barrier for seeking mental health care in Uganda. It was reported that due to cultural influences, community as a whole had a relief that witchcraft causes mental illness during pregnancy so the pregnant women are taken to witchdoctors first before taking them to the hospital (Nakku et al., 2016). Similar results have been found in a separate study conducted with a wide range of community stakeholders in Kanungu, Uganda where the community stakeholders expressed their strong beliefs that mental illnesses were due to the results of witchcraft or punishment for their wrongdoing and only traditional or faith healers can properly treat these problems (Sessions et al., 2017).

Another study conducted among a wide range of stakeholders in Chitwan, Nepal also highlighted how a particular religious or cultural practice can be a barrier for seeking health care. They reported that in Nepal the Muslim women who wear Burka are less likely to visit health facilities where the service providers are males. In Nepal, most of the service providers in the primary care facilities are males which might have restricted Muslim women wearing the Burkas from getting services (Brenman et al., 2014). Similar results have been found in a qualitative study conducted among women with depression and their family members in Pakistan where the depressed mothers were found to be reluctant to visit other people’s home unaccompanied to receive maternal mental health care delivered by peer volunteers (Atif et al., 2016).

The qualitative results summarized in the paragraphs above are also supported by the results from a cross sectional community survey conducted among people with depression and AUD in southern Nepal. This study reported that a significant proportion of the participants with depression and AUD did not receive treatment for their problems due to cultural practices and beliefs regarding their mental health problems and treatment process. For example, 74.7% of the people with depression and 80.4% with AUD reported that they ‘preferred alternative forms of care’, while ‘got help from family members or friends’ was reported by 79.0% of people with depression and 65.2% with AUD (Luitel et al., 2017).

2.4.2.3 Financial barriers

From the structured review, it was found that people with mental illness face a wide range of financial barriers and challenges to receive treatment of their mental health conditions. These barriers included direct cost for the treatment such as consultation fees, medicines, and costs indirectly associated with receiving services such as transportation, food and accommodation. The most commonly reported finance related barriers for mental health care included being unable to afford the services, travel cost, high cost of services, loss of productive time and poverty.

A qualitative study conducted with a wide range of stakeholders in Uganda reported that access to mental health services was extremely hard for poor people, especially for those who live in remote areas. It was found that even where free services are available in the public health facilities, transportation cost remains a major obstacle for people visiting those health facilities who are living in remote areas (Ssebunnya et al., 2009). Poverty and lack of means of transportation to health facilities was also identified as major barrier that limited access to mental health care for mothers with depression in Uganda (Nakku et al., 2016). Furthermore, a qualitative study conducted with 18 mental health care providers working with people having suicidal ideation and substance use disorder in Cape Town specified that poverty not only created the conditions under which people felt suicidal, but was also a major barrier to addressing suicidality (Goldstone & Bantjes, 2017).

Economic barriers have been also reported by health care providers from Bwindi Community Hospital in Uganda while developing community based mental health program. These include direct costs for the treatment such as consultation fees, medicines, and costs associated with receiving services such as transportation, food and accommodation (Sessions et al., 2017). Similarly, economic barriers have also been reported by key stakeholders in Nepal, Nigeria, Ethiopia and Uganda as demand side barriers to accessing mental health care. Lack of social insurance and costs associated with psycho-tropic medicines were the two major economic barriers (Petersen et al., 2017). Similarly, service users and caregivers in Kathmandu and Chitwan districts in Nepal also emphasized the needs for free treatment and medicines. They have recommended that involvement of service users in income generating activities is more beneficial than involving them in the mental health system strengthening because most of them have been struggling to fulfil the basic need of the family and themselves (Gurung et al., 2017).

This has also been supported by health care providers in Zambia where government has not given much priority on mental health by allocating only less than 1% of the total health budget, and no separate budget has been allocated to the district for mental health (Kapungwe et al., 2010).

The qualitative results summarized above are also supported by the quantitative studies included in the structured review. For example, an evaluation study of a community mental health project in four sites – two in Bangalore, India and two in Rawalpindi, Pakistan reported that cost of care was one of the most frequently reported barriers to access mental health care for between 22% and 76% of the people at baseline. Medicines and travel cost were other costs associated with the treatment of their mental health problems (James et al., 2002). Similar results have been reported in the WHO world mental health survey where people with low socio-economic status (SES) reported to be receiving less treatment from mental health specialists compared to those with high SES (Evans-Lacko et al., 2018). Similarly, a cross sectional community based study conducted among people with depression and alcohol use disorder in Nepal revealed that “not being able to afford the financial costs” (25%) was the most commonly cited major barrier for not seeking treatment for their problems (Luitel et al., 2017).

2.4.2.4 Lack of support

Lack of support from family, friends or community members have been reported as barriers for seeking mental health care. Service providers in Cape Town, South Africa found an adverse impact in prevention and treatment of suicidality due to lack of support from family members, or due to breakdown of a family. They reported that family has an important role in treatment of patients with substance use disorder; however, in many cases family rejected persons with these problems. They further pointed out that a person with suicidal ideation is sent back to their home after treatment where they don’t get enough care and support from their own family, may become suicidal again (Goldstone & Bantjes, 2017). An evaluation study of an anti-stigma campaign in rural India found a significant change in the perception of community members about the role of family members in care and support of people with mental illness (Maulik et al., 2017). Village health workers and mothers in Uganda also reported that the role of family members, especially the role of husband or partner is very important for treatment of maternal depression. They further highlighted that most of the women in Uganda are unemployed, so they do not have money to get treatment unless they get support from their husbands. However, most of the women in the study reported that their male partners often express unwillingness to support them to access health care services. In addition to this, they also highlighted that their male partners not only failed to support them to attend antenatal care but sometimes their partners do not grant permission to access such services (Nakku et al., 2016).

Similar experiences have been reported by people with depression and AUD in Southern Nepal where, 89% people with depression and 73% people with alcohol use disorder stated that they did not get mental health treatment over the past 12 months due to lack of individual who could support them to get treatment (Luitel et al., 2017).

2.4.2.5 Lack of knowledge about mental health problems

Lack of knowledge or misconception about mental health problems has also been reported as a barrier for seeking mental health care in various studies. A qualitative study conducted with pregnant women, village health workers and key community members in Uganda reported that due to lack of knowledge about mental health problems and its treatment process, many pregnant and post-natal women with mental health problems do not seek care even if the services are available free of cost (Nakku et al., 2016). They also reported that mental health symptoms are not as visible as physical health problems; therefore, people having mental health problems do not realize that they are having such problems nor do they receive treatment. A qualitative study conducted with 77 health care workers and people with mental health problems in South Africa reported that people in the community believe that mentally ill people act out the symptoms and are also pretending to be sick. This was the reason that community and family members do not realize that people with mental illness need treatment; they visit health facilities only when the problems are very severe (Egbe et al., 2014). Similarly, low mental health literacy among the community members has been identified as an important demand side barrier for accessing mental health care in six LIMCs. Public campaigns have been recommended as a strategy to reduce stigma and improve mental health literacy (Petersen et al., 2017).

Moreover, a wide range of stakeholders in Chitwan also reported that misconception about mental illness and its treatment process was widespread in Nepal. For example, they reported that there is a strong belief that mental illness can be cured if a person with mental illness gets married; therefore, people with mental illness are forced to get married rather than sending them for treatment. In the same study, it was also found that lack of knowledge and awareness on mental health problems not only created problems to access mental health services, it was also one of the important barriers in creating demand for care (Brenman et al., 2014).

2.4.2.6 Low perceived needs

A few studies have reported lack of perceived need as another barrier for people not receiving mental health treatment or for delaying the treatment process. In Pakistan, the family members of the depressed mothers felt that elder females in the families were the best person to educate and support depressed mothers; therefore, they expected monetary or other benefits from the peer volunteers who were trained to provide psychosocial support to depressed mothers (Atif et al., 2016). Similarly, participants in a qualitative study conducted among community member in Chitwan, Nepal reported that alcohol use disorders are not considered as a mental health problem so in general people with such problems do not get treatment in Nepal (Brenman et al., 2014).

Moreover, a quantitative cross-sectional community survey conducted with people having depression and alcohol use disorder in Chitwan Nepal found that 63.4% of people with depression and 62.5% of people with AUD did not receive treatment in the post 12 months thinking that the problem would get better by itself. Similarly, 80% of the sample with depression and 74.7% with AUD also reported that they did not receive treatment “thinking that they did not have problems” (Luitel et al., 2017).

2.4.2.7 Lack of knowledge about the available mental services

Lack of knowledge and awareness about the available mental health services has been found to be another important reason for people not receiving mental health services. The participants in an evaluation study of an anti-stigma program in rural India reported that they were not aware of the existing mental health treatment facilities before implementation of the anti-stigma program (Maulik et al., 2017). Likewise, a wide range of stakeholders (service providers, policy makers, service users) in Nepal accepted that many people with mental illness do not go to get treatment due to lack of knowledge and awareness about the available mental health services. It was also reported that the knowledge about mental health services and treatment process was also very poor among those with higher level of education (Brenman et al., 2014).

Similar results have been found in a cross-sectional study conducted in southern Nepal. “Being unsure where to go to get mental health treatment” was reported by 80.3% of people with depression and 83.5% of people with Alcohol use disorder (Luitel et al., 2017).

2.4.2.8 Lack of services and resources

Lack of mental health services and resources has been reported as one of the most important barriers for detection and initiation of mental health treatment in most of the LMICs. The community health workers in Uganda reported that mental health services are not available in the primary and community health care centres; therefore, they refer mothers with perinatal depression to the district or regional hospital for help once they identify mothers with perinatal depression or those at risk of mental illness. They further reported that it was not always possible for them to refer each and every case to the district/regional hospital; therefore, mostly people with mental illness visit traditional healers for seeking mental health care (Nakku et al., 2016). Low staffing, inadequate training, lack of competency of health workers and lack of psychotropic medicines were the most commonly reported health facility level barriers to provide maternal mental health services in Kamuli district of Uganda (Nakku et al., 2016). In a qualitative study, the national and district level policy makers and planners from six LMICs agreed that lack of separate mental health workers in the primary health care facility was the key barrier for implementation of the task-sharing approach on mental health care in most of the countries (Petersen et al., 2017). Similarly, insufficient emergency psychiatric services and rarely available specialized care in the health facilities was found to one of the key barriers for prevention and treatment of suicide ideation in South Africa (Goldstone & Bantjes, 2017). Similarly, lack of psychotropic medicines and limited number of mental health specialists were two major barriers reported by the key community stakeholders for integration of mental health services in primary care in

Uganda (Petersen et al., 2011). Similar experiences have been reported by the primary health care workers in Chitwan. They reported that people with mental health problems come to primary health care centres but they do not find any services there because mental health services were restricted to the district hospital (Brenman et al., 2014)

Participants in the baseline community survey in rural India also raised a concern about the availability of mental health services in the community. They reported that due to the lack of services in the community, they have to travel far just to get basic mental health services (Maulik et al., 2017).

2.4.2.9 Perceived ineffectiveness of the service

Health care providers working with people having suicidal ideation and substance use disorder (PWSUD) in Cape Town agreed that due to lack of sufficient mental health training, they were not able to provide quality mental health services to PWSUDs (Goldstone & Bantjes, 2017). Similarly, poor quality of the available mental health services and not having a mechanism to monitor unethical practices in mental health care were reported to be the important contributing factors for not seeking mental health care in five out of six participating countries (Petersen et al., 2017). Mistreatment of service providers to mentally ill persons was another concern raised by the stakeholders from Nepal which discouraged people with mental illness from seeking treatment for their problems (Brenman et al., 2014).

An evaluation study of an integrated mental health services in India and Pakistan reported that a significant number of the participants in both countries had a doubt about the effectiveness of the services provided by trained primary care workers. The proportion of the participants reporting doubt about the services was significantly higher in Pakistan (60%) than in India (18%) (James et al., 2002). Similar results have been found in a study conducted with people with depression and AUD in central Nepal where about two-thirds of the participants (66.3% with depression and 64.9% with AUD) reported that they did not received treatment for their problems thinking that mental health treatment does not work (Luitel et al., 2017).

2.4.2.10 Low/No detection

Nakku et al (Nakku et al., 2016) reported that the Village Health Teams (VHTs) in Uganda, who are supposed to refer patients with mental health problems for treatment, found that they were unable to identify cases. The primary health workers who were treating patients with maternal mental problems also agreed that due to lack of capacity, they were not able to detect maternal mental health care, which has huge implication in low utilization of maternal mental health care in Uganda (Nakku et al., 2016). The key community stakeholders in Nepal reported that in general, families with mentally ill members often hide the patients to avoid stigma and being socially discriminated (Brenman et al., 2014). Stakeholders have considered this as one of the serious barriers for detection of mental illness in early stage.

2.5 Strategies to overcome barriers

The above structured review shows that barriers to mental health care are complex and they are also interrelated with each-other. Various strategies have been recommended to reduce barriers to mental health care. Although the strategies to reduce barriers can be determined based on the available resources, government health priorities and other contextual factors; the most commonly recommended strategies for increasing mental health literacy and reducing mental health stigma included engagement of media professionals in anti-stigma campaigns (Semrau, Evans-Lacko, Koschorke, Ashenafi, & Thornicroft, 2015); sharing lived-experiences of persons with mental illness; staging a video on mental illness and stigma by local theatre groups (Maulik et al., 2017); involvement of trusted and respected figures (such as comedians) in community sensitization programs (Ayazi et al., 2014; Brenman et al., 2014); transformation of mental health policy and legislation (Kapungwe et al., 2010) and establishing commercial networks to support individual with mental illness (Mascayano, Armijo, & Yang, 2015). Social contacts have also been recommended as effective interventions to improve stigma related knowledge and attitudes; however, these interventions demonstrated only a short-term impact (Thornicroft et al., 2016). Other recommended strategies were improving detection of mental health problems in the community (Brenman et al., 2014); psychoeducation intervention on mental illness (Egbe et al., 2014) and community sensitization programs by using drama and videos to address the myths and traditional beliefs on the cause of mental illness (Maulik et al., 2017).

Most of the studies included in the structured review have explored the opinion of different stakeholders including people with severe mental illness and their family members, primary health care workers, prenatal or postnatal women, and key community stakeholders about the possible barriers for mental health care. With few exceptions, none of the studies have attempted to evaluate the interventions that are helpful to overcome these barriers. Training primary and community health care workers on mental health has been recommended as one of the effective strategies to overcome barriers related to shortage of mental health human resources. Primary health care services are available everywhere in the community, and these services are not associated with any specific health conditions; therefore integration of mental health services into primary health care system could be an effective strategy to overcome some of the important barriers including stigma, current lack of services, and financial barriers (WHO & Wonca, 2008). While there is growing evidence in research literature on the effectiveness of mental health services provided by trained community and primary health care workers, implementation research is still needed to investigate how best to integrate mental health services into primary care, given the barriers highlighted above. This is what the PRIME research consortium tried to address, by evaluating the effectiveness of mental health services in primary and community health care setting in five LMICs (Lund et al., 2012).

2.6 Overview of PRIME

PRIME is a research program consortium funded by the UK Department for International Development and was implemented in five LMICs (Nepal, India, Ethiopia, Uganda and South Africa). One of the objectives of PRIME was to increase mental health service utilization, by improving awareness around mental health, reducing stigma associated with mental illness and making services available in the community and primary health care system.

In each country, PRIME selected one district as a demonstration site, and worked closely with Ministry of Health (MoH) and district health authority to integrate mental health into primary health care system (Lund et al., 2012). As a part of PRIME, a district mental health care plan (MHCP) was developed by involving policy makers, mental health specialists, primary health care workers and service users. The MHCP consisted of intervention packages for four priority disorders namely depression, psychosis, alcohol use disorder and epilepsy. In Nepal, the MHCP consisted of intervention packages delivered in community, health facilities and health organization platforms (Jordans et al., 2016). The community level packages included mass sensitization program for increasing awareness on mental health problems and available services; case detection by female community health volunteers using a pro-active case detection tool (Jordans, Kohrt, Luitel, Komproe, & Lund, 2015; Jordans, Kohrt, Luitel, Lund, & Komproe, 2017; Subba et al., 2017), and adherence support through home-base care. Community counselling has also been included in the community care package where para-professional psychosocial counsellors provided evidence-based psychosocial counselling service following behaviour activation and motivational interviewing approaches (Jordans, Luitel, Garman, et al., 2019). The health facility level packages included training and supervision for health workers (medical officers, health assistants, auxiliary health workers) to detect, diagnose and manage mental disorders based on the WHO mhGAP Intervention Guide (WHO, 2010). Finally, the health service organization level packages included human resource mobilization, procurement and supply of psychotropic medicines and referrals for specialized care (Jordans et al., 2016).

2.6.1 PRIME evaluation framework

Multiple methods were used to evaluate the effectiveness of the PRIME district mental health care plan in four different dimensions: (a) population level contact coverage; (b) detection of mental disorders and initiation of evidence based treatment in the primary health care facility; (c) impact on patients' mental health, functioning and socio-economic outcomes and (d) documentation of implementation process, barriers and best practices (De Silva et al., 2016). Different study designs were used to answer the above research questions. A repeat cross-sectional facility detection survey was conducted to measure the improvement in detection of mental disorders and initiation of mental health services in primary care. Four cohorts comprised of people living with depression, alcohol use disorder, psychosis and epilepsy were followed up over one year to assess the impact of the PRIME MHCP on patient level outcomes such as symptom severity, functioning and other socio-economic indicators (Baron et al., 2018; De Silva et al., 2016). Finally, a range of qualitative and quantitative methods were used for a case study to evaluate the process of implementation of the district mental health care plan (De Silva et al., 2016).

This present study draws on data from PRIME community survey in Chitwan district, Nepal, which aims to measure the change in population-level contact coverage and barriers to initiation or continuation of mental health care. I was involved in PRIME as the Project Coordinator from the initial stage: in the selection of study sites, study design, translation and adaptation of instruments, training and supervision of research assistants, as well as in the supervision of data collection. The community survey is a repeat cross-sectional survey among the adults living in ten Village Development Committee (VDCs) in Chitwan district. The baseline community survey was conducted before implementation of the PRIME district mental health care plan between May and July 2013 and the follow-up survey was conducted three years after implementation of the MHCP between December 2016 and February 2017. The baseline data show that among those scoring above clinical cut-off score; only 8.1% received treatment for depression and 5.1% for AUD in the past 12 months. In the baseline data, there was no much difference in the reported perceived barriers between those with depression and those with AUD. The most frequently reported major barriers for treatment of both depression and AUD were lacking financial means to afford care, fear of being perceived as weak for having mental health problems and fear of being perceived as crazy (Luitel et al., 2017). Out of three reported major barriers, two were related to stigma and the remaining one was related to financial barriers. This present study is conducted as a part of PRIME, to assess the change in treatment coverage and barriers to mental health care in Chitwan, Nepal.

2.7 Hypothesized pathways to change in help-seeking behaviour

Although there is great interest among researchers, policy makers and practitioners in help-seeking behaviour for mental health problems, there is no agreed-upon definition or commonly used conceptual framework for help-seeking (Rickwood & Thomas, 2012). Most of the studies conducted so far have focused on formal sources of help-seeking (e.g. mental health professionals) whereas it was found that people with mild to moderate problems often prefer seeking help from informal sources such as friends or family members (Rickwood & Braithwaite, 1994; Rickwood et al., 2007). In this study, I am particularly interested in assessing the changes in help-seeking behaviour of people with depression and alcohol use disorders from trained primary and community health care workers. Various conceptual models and frameworks have been used to describe help seeking behaviour of people with a range of health problem. These models included the Self-Regulation Model (Leventhal, Nerenz, & Steele, 1984), Help Belief Model (Rosenstock, 1966), Theory of Planned Behaviour (Ajzen, 2011), Network Episode Model (Pescosolido & Boyer, 1999) and Health Service Utilization Model (Andersen & Newman, 1973). The psychological behaviour models could be appropriate to explain health care utilization for mental health problems; however, behaviour is only one of many factors that influence health care utilization. For example, social and contextual factors have an important role in determining health care utilization. Thus, the Anderson and Newman Health Service Utilization Model (Andersen & Newman, 1973), which accounts for both social and individual factors, has often been used as a framework to assess health service utilization (Andersen, 1995; Graham, Hasking, Brooker, Clarke, & Meadows, 2017; Kumar, Henseler, & Haukaas, 2009).

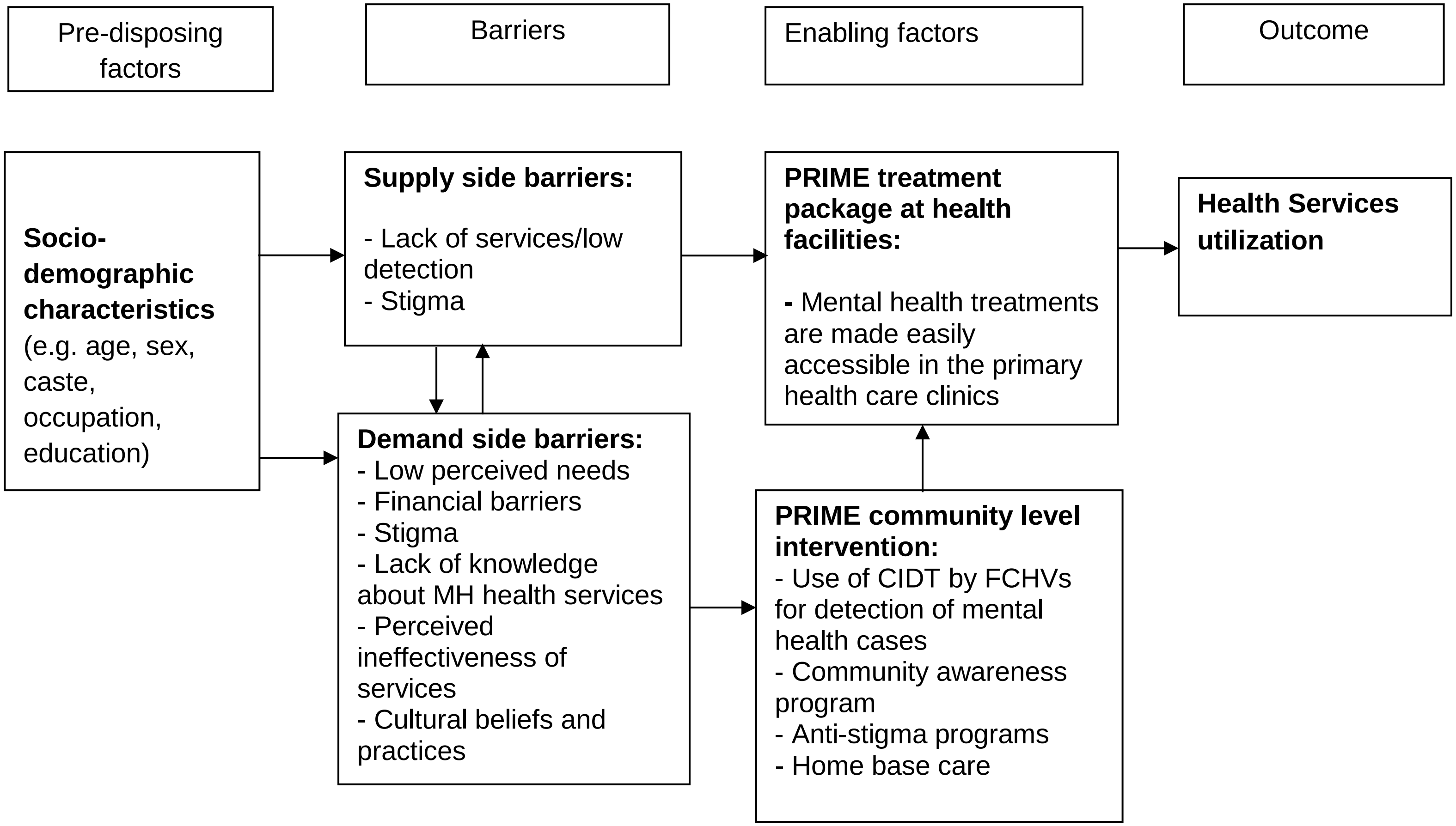
According to the Anderson and Newman model, utilization of health services is primarily determined by three dynamics: pre-disposing factors, enabling factors and needs factors. The predisposing factors included individual’s socio-demographic characteristics, beliefs and attitudes towards services; the needs factors included subjective perception of individual’s health care needs for mental health care (such as severity of problems, level of disability, duration), and the enabling factors included the factors that facilitate service utilization such as availability of services as well as other demand and supply side interventions.

2.8 Conceptual framework for change in help-seeking behaviour

The framework presented in Figure 1 illustrates the hypothesised mechanisms of change in help-seeking behaviour in the PRIME Nepal site: it is adapted from the Anderson and Newman Health Service Utilization Model, and is based on the multidimensional approach that PRIME used in the community to increase mental health service utilization. The district MHCP intended to reduce supply side barriers by making mental health services easily accessible through a task-sharing approach, and improving detection and treatment capacity in the primary health care facilities. The overall aim of the PRIME community level intervention package was to improve help-seeking behaviour of general community members through improving mental health knowledge, attitudes and behaviour on mental health care. This was intended to be achieved through implementation of a community awareness and sensitization program, a proactive case detection strategy and improving treatment adherence through home-based care. The underlying assumption was that community members would seek mental health care from the trained primary health care workers if they were sensitized on mental health issues, available services in the community and the treatment process. Previous studies have demonstrated that mental health literacy helps to change individual attitudes towards mental health care (Roberts et al., 2018); therefore, community sensitization programs primarily focused on providing in-depth information on four priority disorders namely depression, alcohol use disorder, psychosis and epilepsy. These programs were conducted by Female Community Health Volunteers (FCHVs) with the support from community counsellors. In the sensitization programs, information about mental health problems, particularly myths and misconceptions about mental illness, possible causes, treatment process and treatment methods (i.e.

psychological and pharmacological treatments) were discussed. Leaflets and brochures for priority disorders were distributed in the sensitization program where details of each priority condition and treatment places were included. Similarly, FCHVs were also trained on CIDT which was developed and validated for detection and referral of people with mental health problems in order to increase help-seeking behaviours (Subba et al., 2017). The CIDT was a culturally sensitive tool, found to be effective in detection of people with probable mental health problems and promoting help-seeking behaviour (Jordans et al., 2015; Jordans, Kohrt, et al., 2017). Thus, the conceptual framework focuses on participants' socio-demographic characteristics (i.e. pre-disposing factors), barriers (stigma and non-stigma related barriers), availability of mental health services and community level interventions (i.e. enabling factors) in relation to service utilization. Other factors, such as needs factors or contextual factors, including distance to health facilities or health care environment, which have been shown to be associated with help-seeking behaviour (Roberts et al., 2018), are not included in the framework as these were not assessed in the surveys.

Figure 1 Conceptual framework, health care utilization



2.9 Aims and Objectives

The overall aim of this study is therefore to report on the change in treatment coverage, barriers to care and factors associated with help-seeking behaviour of adults with depression and alcohol use disorder before and three years after implementation of PRIME in Nepal.

Specific Objectives

1) To assess the change in treatment contact coverage for depression and AUD between the baseline and follow-up survey.
2) To assess change in barriers for seeking mental health care for depression and AUD between the baseline and follow-up survey.
3) To analyse factors associated with help-seeking behaviour of adults with depression and AUD at follow-up.

CHAPTER THREE: METHODS

3.1 Setting

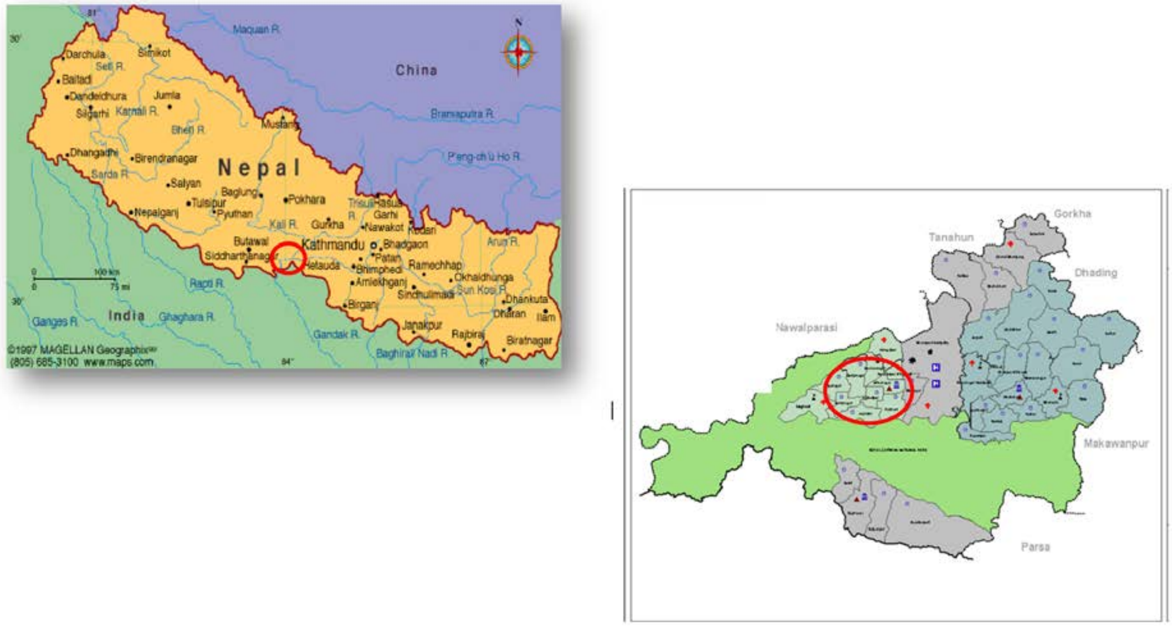
Nepal is one of the poorest countries in South-Asia and has a total population of approximately 26.4 million with 69.1 years life expectancy at birth. Nepal's gross national income per capita at purchasing power parity (PPP) was $2500 in 2017, ranking 193, out of 226 countries (World Bank, 2017).

Sub-health posts (SHPs) are the first institutional contact point for basic health services in Nepal which provide essential health care packages and monitor the activities of female community health volunteers (FCHVs), who are the lowest level health care providers in its health care system. Health posts (HP) are the next tier of the health care system and they offer the same package of essential health care services as SHPs, with the additional services of birthing facilities. The third tier of health care system is primary health care centres (PHCCs) that deliver general medical care, family planning, maternal and child health services, basic laboratory investigations and provision of basic health care services that are available in the SHPs and HPs (Luitel et al., 2015). In Nepal, there is a scarcity of population-wide mental health services with 0.22 psychiatrists and 0.06 psychologists per 100,000 populations (Luitel et al., 2015). The available mental health services are also concentrated in the hospitals located in the big cities. Community mental health programs have been initiated by both government and non-governmental organizations in few districts but due to lack of regular supply of medicines and ongoing supervision, these services are not available continuously.

The study was conducted in Chitwan, a district in southern Nepal (Map of Nepal and Chitwan district in 'Figure 2 below). The southern part of Chitwan touches the Bihar state of India. It covers 1.52 percent (2218 sq. km) of the total area of the country. The total population of Chitwan district is 579,984 (279,087 male and 300,897 female), with approximately 132,462 households. On average, 4.38 people live in each household in the district. The literacy rate of Chitwan is 78.9%, which is higher than the national average of 67% (Central Bureau of Statistics, 2011). Although varieties of Caste and

Ethnic groups reside in Chitwan, the major caste/ethnic groups in the district are Brahmin (28.6%), Chhetri (11.4%), Tharu (10.9%) and Tamang (8%) (Central Bureau of Statistics, 2011). Although mental health services are restricted to a few hospitals located in big cities in Nepal; in Chitwan mental health services (both inpatient and outpatient services) are available in the district hospital and medical colleges operating in the district. Evidence suggests that the availability of specialized mental health services alone will not be effective in minimizing the treatment gap on mental health care (Lora et al., 2012). Therefore, Chitwan district was selected in order to implement and evaluate the PRIME district mental health care plan among a community sample where specialists' mental health services are available in the district hospital and private medical colleges. Multiple types of service providers were involved in the implementation of the PRIME MHCP. At the health facilities, Medical Officers (5 to 6 years of training); Health Assistants (3 years of training) and Auxiliary Health Workers (15 months of training) were involved in assessment, diagnosis and management of priority mental health conditions. Staff Nurses and Auxiliary Nurse Mid-wives (18 months to 3 years of training) were responsible for providing basic psychosocial support in the health facilities. At the community level, Psychosocial Counsellors trained by NGOs were responsible for providing advanced psychological treatment to those referred by primary health care workers. Female Community Health Volunteers were responsible for pro-active case detection and home-based care

Figure 2 Map of Nepal and Chitwan District



3.2 Study design

A repeat population-based cross-sectional survey design was used to assess the change in treatment contact coverage and barriers to mental health care among adults with depression and alcohol use disorder. The baseline community survey was conducted, between May and July 2013, before the implementation of the PRIME MHCP; the follow-up community survey was conducted between December 2016 and February 2017, three years after the start of the implementation of the PRIME MHCP.

3.3 Participants

Participants were recruited from 10 Village Development Committee (VDCs), namely Saradanagar, Shivanagar, Gitanagar, Parbatipur, Patihani, Gunjanagar, Mangalpur, Patihani, Fulbari and Sukranagar of Chitwan district. VDCs are the lowest administrative units in a district covering a population size of 5000 to 25,000. The inclusion criteria were age 18 years or above, resident of the study VDCs, ability to provide informed consent and fluency in the Nepali language. The exclusion criteria included having severe mental illness and unable to provide informed consent.

3.4 Sampling and sample size

Two different samples were recruited for the baseline and follow-up surveys. The eligible adults population of 10 study VDCs was 69,068 (Statistics, 2011). Sample size was calculated to allow detection of a change in contact coverage between the baseline and the follow-up study with 80% statistical power and two-sided alpha of 0.05. The estimated contact coverage for depression and AUD in the baseline was between 0 to 5%, and hypothesized to increase to between 20 to 30% at the end-line. The estimated sample size for both baseline and follow-up surveys was 1500. Details of the sampling process can also be found in Rathod et al (Rathod et al., 2016).

Households were used as the sampling unit for the surveys. The same recruitment strategy was used in both baseline and in the follow-up study. A multi-stage random sampling technique was used to select participants. First, the total sample size was divided into 90 wards (9-wards in each VDC) based on the proportion of the total adults population of each ward. Second, the required numbers of households from each ward were selected using a systematic random sampling technique. For this purpose, a list of all households (with the name of head of households) was prepared for each of the 90 wards, and a sampling frame was calculated for each ward using the proposed sample size and total households of a particular ward. The lists of all households with the name of head of household in a particular ward were collected from the respective VDCs office. At the end, the required number of households was selected by using the calculated sampling frame. Location and name of the head of the household of each ward was provided to research assistants. Finally, the research assistants visited the respective wards with the list of the sampled households for data collection. When a particular sampled household was identified, first, the research assistants prepared a list (roster) of all the members (including age and sex) living in that household. Second, the survey inclusion criteria of age 18 years or above, resident of the implementation area, ability to provide informed consent and fluency in the Nepali language were applied. Third, a separate list of eligible members of household was prepared for randomization. Finally, a member of each household drew a name of one eligible participant from within that household by using a simple random selection procedure. If no one was found at the household after three visits, or the selected adult was not willing to participate in the study then the research assistant visited the nearest neighbouring household to assess its members for the inclusion criteria. In total, 1983 and 1499 adults were recruited in the baseline and the follow-up study, respectively. A surprisingly low prevalence of depression (2.7%) was found in the targeted sample of 1500 in the baseline study. After reviewing the possible reasons for low reporting of depression, the Nepali translation of the term ‘mental health’ was revised to a more locally relevant term, `heart mind problem', in the informed consent and questionnaire instructions, and recruited 500 more participants. A significant increase was observed in prevalence of depression (i.e. from 2.7% to 11.2%) in the last 500 participants who followed the revised consent and instructional material.

3.5 Procedure

Twelve Nepali-speaking research assistants with an undergraduate degree were hired for data collection. Research assistants visited each sampled household, assessed eligibility criteria, performed sampling procedures within the household, and obtained informed consent from the selected participants for the interview. Interviews were conducted in the respondents’ place of residence by using Android tablets with questionnaire application. Two months of extensive training was provided to the research assistants covering the topics of interviewing skills, rapport building, informed consent, inclusion/exclusion criteria and content of the questionnaire. Several mock interviews and pilot testing were conducted before sending research assistants to the field for data collection.

3.6 Instruments

Standardized and validated instruments were used to screen people with depression and alcohol use disorder and to assess barriers to mental health care. Details of each study measure have been provided below.

Demographic characteristics: Basic socio-demographic characteristics of the respondents such as age, sex, education, caste/ethnicity, marital status, religion, occupation, and family income were collected for each of the study participants in both baseline and follow-up study. For educational status, participants were grouped into five broad categories: illiterate, literate/less than primary, primary, secondary and college/university. Marital status of the participants was grouped into three categories based on whether they were single, married or widow/divorced/separated. For caste/ethnicity, participants were grouped into three broad categories such as Brahmin/Chhetri, Janajati and Dalit. Religion of the participants has been grouped into two categories based on whether they follow Hinduism or other religions.

Patient Health Questionnaire (PHQ9): The PHQ9 was used to screen people with depression. PHQ9 is a widely used self-report screening tool for patients with depression in various medical settings (Gilbody, Richards, Brealey, & Hewitt, 2007). The PHQ9 has nine common symptoms of depression and respondents are asked to score those symptoms based on their experiences in the past two weeks. The PHQ9 has been translated and validated in Nepal (Kohrt, Luitel, Acharya, & Jordans, 2016). The validated cut off score of ≥10 (sensitivity =0.94, specificity =0.80; positive predictive value = 0.42 and negative predictive value = 0.99) has been recommended as an indicator of moderate to severe depression symptoms (Kohrt et al., 2016). Immediately after completing the PHQ-9, each participant was asked “Apart from these past two weeks, during the past twelve months, did you have other episodes of two weeks or more when you felt depressed or uninterested in most things, and had most of the problems we just talked about? Participants with an affirmative response to the additional question or a score of 10 or more on the PHQ9 were considered positive for depression.

Alcohol Use Disorder Identification Test (AUDIT): The AUDIT has been used to screen people with alcohol abuse or dependence. The AUDIT is a 10 item tool developed by the World Health Organization (WHO) to assess alcohol consumption, drinking behaviours, and alcohol related problems (Saunders, Aasland, Amundsen, & Grant, 1993). AUDIT has been translated, adapted and validated in Nepal. A cut off score of 9 or more has been recommended for alcohol dependence or alcohol abuse for both males (sensitivity 0.97 and specificity 0.92) and females (sensitivity 0.94 and specificity 0.91) (B. Pradhan et al., 2012).

Barriers to Access to Care Evaluation (BACE): Barriers related to stigma and discrimination and other non-stigma related barriers were assessed using the BACE scale, which was developed by involving both experts and service users at Kings College London (Clement et al., 2012). The BACE is a 30-item self-report instrument where respondents are asked whether each of the items has ever stopped, delayed or discouraged them for receiving or continuing care for their mental health problems. It has a four-point response scale ranging from 0 (not at all) to 3 (a lot) along with ‘66’ for non-applicable responses. Results for each barrier can be presented in three ways: mean score for the item, barrier to any degree (i.e. the percentage reporting 1, 2 or 3) or major barrier (i.e. the percentage reporting 3). The total score of BACE ranges from 0 to 90; a higher score indicates more barriers. The systematic approach that has been developed in Nepal for translation and adaptation of standardized tool for translation and contextualization (van Ommeren et al., 1999), was used for translation of BACE in Nepali language. Based on the literature review and conceptual framework, the BACE scale was further categorized into 7 different sub-scales which included stigma (12-items), financial barriers (3-tems), cultural beliefs and practices (4-items), low perceived needs (4-items), perceived ineffectiveness of available services (3-items), lack of support (3-items) and lack of knowledge (1-item). These sub-scales cover all the barriers (both demand side and supply side barriers) that have been included in the theoretical framework (Figure 1).

Treatment contact coverage: Respondents who had reported depressive episodes in the past 12 months or a score of 10 or more on the PHQ9 or score of 9 or more on the AUDIT were subsequently asked whether they had sought treatment for that disorder in the past one year. The device automatically directed field workers to continue the subsequent treatment section with those who scored above these cut off points. Based on the framework described by Tanahashi (Tanahashi, 1978), contact coverage was defined as the proportion of individuals with depression or alcohol use disorder who accessed any health care providers for that condition in the past 12 months. Health care providers were disaggregated into mental health specialists, generalists, primary health care workers and other community-based care providers.

3.7 Statistical analysis

Data were transferred from the online data collection application (Mobenzi Researcher) to Stata version-13, where data were cleaned. I first described the demographic and screening-related characteristics of the participants who were recruited into the baseline and follow-up survey.

Information on caste was also collected, as it is a key demographic characteristic in Nepal. The 2011 census has reported 125 caste/ethnic groups in Nepal; however, for this study, castes/ethnicity are categorized into four broad groups: Brahman/Chhetri, Janajati, Dalit and Others (Central Bureau of Statistics, 2014) which is consistent with various previous studies (Luitel, Baron, Kohrt, Komproe, & Jordans, 2018; Luitel et al., 2017). In Nepal, the caste system is rooted in Hindu religion (Hofer A., 2004). In this system, everyone is categorized in terms of their relative ritual purity into the four broad “varnas” of the classical Hindu caste system: the Brahman priests, the Kshatriya kings and warriors, the Vaisya traders and businessmen and the Sudra peasants and laborers. An additional group outside the above caste system is called “untouchable” by other because of their ritually defiling occupations (Bennett Lynn, Dilli Ram Dahal, & Pav Govindasamy, 2008). The top of the caste system includes the two main ‘high caste’ groups Brahman (historically priests) and Chhetri (historically warriors and rulers). At the bottom of the caste system are Untouchable or Dalit castes. Many ethnic groups influenced by the Hindu caste ideology, consider the Dalits ‘untouchables’. The high castes always dominate politics, education, and business, while Dalit historically are marginalized from positions of power (Kohrt et al., 2009). The ethnic groups, currently known as Janajatis, comprise mainly of Mongoloid stock, speak various Tibeto-Burman languages, such as Tamang, Gurung, Newari, and Magar, and profess religions such as Buddhism, Animism, and Kirant, besides Hinduism (R. Pradhan & Shrestha, 2005).

As all socio-demographic variables were categorical, I presented numbers and proportions, and used Chi-square tests to compare demographic characteristics in the baseline and follow-up survey. I also compared the proportion of participants who screened positive on the PHQ-9 and AUDIT in baseline and follow-up surveys using the Chi-square test. I conducted Chi-square tests to assess if the change in the proportion of the participants who accessed mental health care among those who screened positive (treatment contact coverage) differed between the baseline and follow-up survey. I conducted Chi-square tests separately for participants with depression and AUD. I conducted the same analyses for each type of provider separately.

To assess change in barriers to seeking mental health care from baseline to follow-up, I compared the overall scores on the BACE and scores on BACE different sub-scales (i.e. stigma, financial barriers, cultural beliefs and practices, low perceived needs, perceived ineffectiveness of available services, lack of support, and lack of knowledge) between baseline and follow-up surveys. As these data were not normally distributed, I used the non-parametric Mann-Whitney U Test, again separately for depression and AUD. I calculated item level means and frequencies for each BACE item and reported the proportion of participants who reported each item as a major barrier and as a ‘barrier to any degree’. To adjust for multiple comparisons in the item level analysis of the BACE scale, the Bonferroni correction was applied. I also conducted Chi-square tests for each BACE item to compare the changes in the proportion of participants who reported ‘barrier to any degree’ from baseline to follow-up. This was only done for BACE items under the subscales which showed significant change between baseline and follow-up. Statistical analysis was not conducted on ‘major barrier’ between baseline and follow-up survey because of the small proportion of participants reporting barriers as major.

Finally, I conducted unadjusted logistic regression analyses to assess the association between ‘help seeking’ (seeking treatment vs not seeking treatment) behaviour (i.e. dependent variable) and socio-demographic characteristics (such as age, sex, education, occupation, and caste) and barriers to mental health care (i.e. overall BACE score and scores on the different sub-scales). As the number of people receiving treatment for depression and AUD was relatively small, I combined the samples with depression and AUD.

3.8 Ethical consideration and inform consent

The PRIME community surveys received ethical and technical approval from Nepal Health Research Council (NHRC) (Ref. no. 10/2013), the national ethical body of the government of Nepal; ethical review board of World Health Organization (WHO) Geneva, and University of Cape Town (HREC Ref: 412/2011). A separate ethical approval has also been received **(HREC Ref: 570/2018)**, from the Human Research Ethics Committee, Faculty of Health Science; University of Cape Town to conduct secondary analysis of PRIME community survey data for this MPhil dissertation.

3.8.1 Informed consent

A written consent was obtained from each study participant. Only those people who voluntarily agreed to participate were included in the study. The research assistants provided information about the survey in both oral and written format prior to the recruitment of the participants. The selected literate adults then signed the consent form to participate in the study. Please see appendices **(Appendix III for English and IV for Nepali)** for details of the consent forms used in the survey. As getting thump-print is always sensitive in Nepal, only verbal consent was obtained from illiterate participants. If the participant wanted to opt out at any time from the interview, they were instructed to do so. Information about the study, study procedure, benefit and confidentiality of the data were clearly mentioned in the consent form, and research assistants also discussed those issues in case of illiterate respondents. Participants were also made clear that refusal to participate in the study will not affect any participant receiving health services at the health facility.

3.8.2 Potential Benefits

Survey participants did not get any direct benefit due to their participation in the study. However, upon providing consent for the study, lunch and/or transportation costs was arranged as compensation for their time. Participants having suicidal thoughts and other severe adverse events (such as gender-based violence) were referred to TPO Nepal's psychosocial counsellors for immediate support.

3.8.3 Potential harms

No any physical harm was foreseen in this study; however, participants who underwent any emotional difficulties were provided with psychosocial assistance by psychosocial counsellors employed for PRIME in Chitwan. If a respondent reported having suicidal or self-harm thoughts, or severe psychological distress, either verbally or when completing the PHQ9, the respondent was immediately referred to the professional counsellor recruited by PRIME for support. The study followed TPO Nepal's Adverse Events Reporting and Management Procedure to ensure that adverse events were responded to.

3. 8.4 Confidentiality

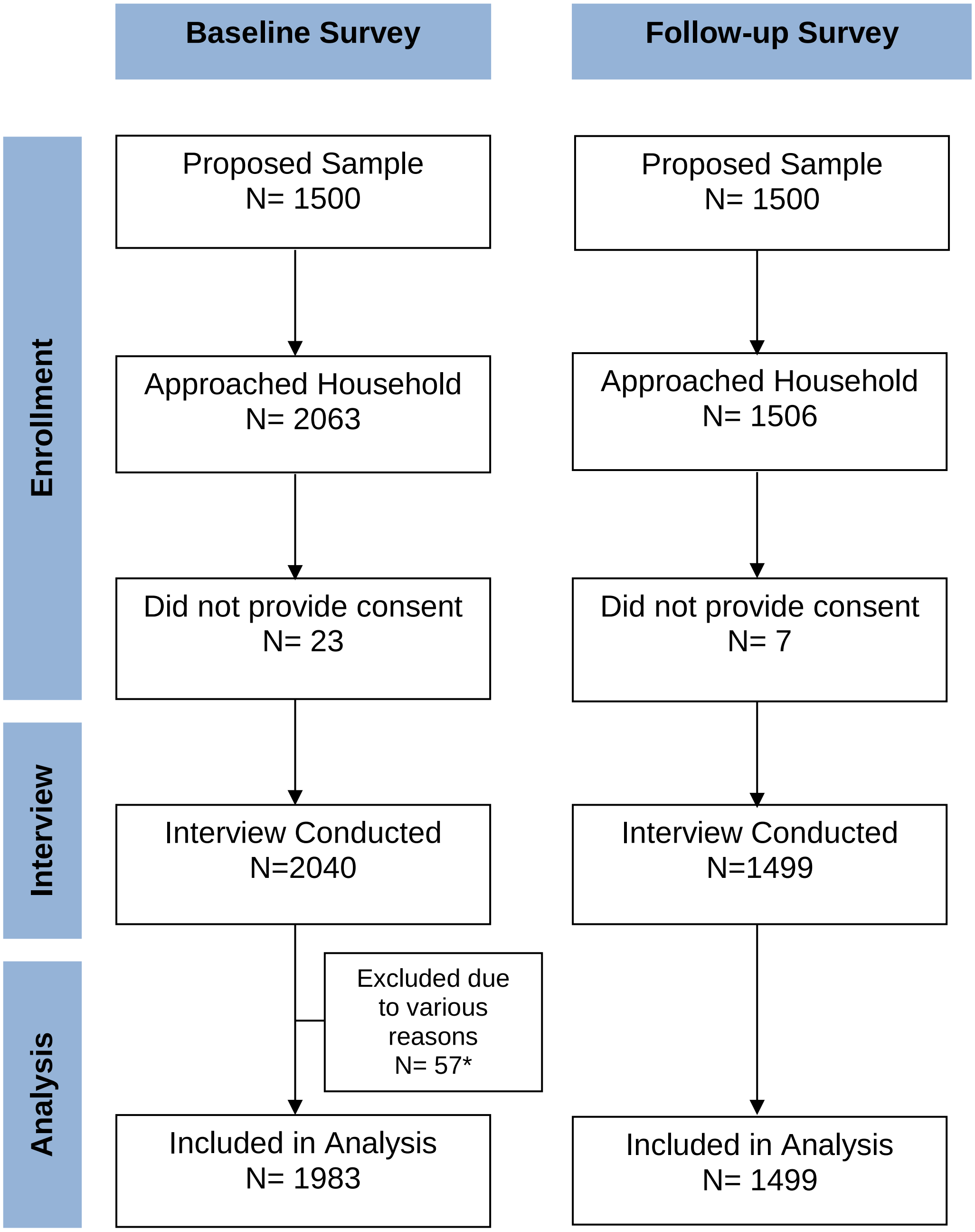
Confidentiality was strictly maintained throughout and after the study. No names and other identifiers were collected in the main interview format. Informed consents are locked in a cupboard at TPO Nepal office. No names or any personal details identifying the participants have been included in the report. Code numbers have been used to refer to each participant.

CHAPTER FOUR: RESULTS

4.1 Study flow chart

Figure 3 below presents study flow chart for both baseline and follow-up community survey.

Figure 3 Study flow chart



* Excluded 57 purposively recruited pregnant women

4.2 Socio-demographic characteristics

Socio-demographic characteristics of the participants involved in the baseline and the follow-up surveys are presented in Table 3. The majority of the sample were females at follow-up (n=1072, 68.3%); this proportion was greater than that at baseline (n=1280, 60.1%; χ2=18.3, p<0.001). Over two-thirds of the sample at follow-up (n=1089, 69.5%) were of working age (25 to 59 years); this proportion was slightly greater than that at baseline (n=1418, 68.1%); however the difference was not statistically significant (p=0.649, χ2=0.43). The educational status of the participants in baseline and follow-up was significantly different (χ2 =7.5, p<0.001): roughly more than one-third (n=518; 36.1%) of the participants in the follow-up survey had completed secondary level of education; this proportion was lower than that at the baseline (n=822, 41.6%). The marital status of the participants was significantly different between the baseline and follow-up surveys (χ2= 3.6, p=0.027). A large majority of the participants at follow-up were married (n=1253, 82.8%); this proportion was slightly greater than that at baseline (n=1645, 81.5%). More than half (51.5%) of the participants in the follow-up survey were Brahmin/Chhetri; this proportion was lower than that at baseline (n=948; 48.3%); however, the difference was not statistically significant (χ2 = 1.0, p=0.391).

There were significant differences in the occupation of the participants in the baseline and follow-up surveys (χ2 = 16.3 p<0.001). A large majority of the participants in the follow-up survey (n=1351; 90.4%) were from the households with sufficient family income for foods for 9 to 12 months; this proportion was significantly greater than that at baseline (n=1324; 67.8%, χ2=126.0, p<0.001). The prevalence of depression in the follow-up survey (n=118; 7.6%) was significantly lower than that found at baseline (n=228; 11.1%, χ2=9.3, p=0.002).

Table 3. Socio-demographic characteristics of the participants in the baseline and follow-up surveys

Variables	Baseline (N=1983)		Follow-up (N=1499)		χ2, p
	N*	%	N*	%	
Sex					
Male	703	39.9	427	31.7	18.3
Female	1280	60.1	1072	68.3	<0.001
Age (years)					
18-24	296	18.4	221	17.1	0.43
25-59	1418	68.1	1089	69.5	0.649
60 and above	269	13.5	189	13.3	
Education					
Not schooling	275	13.2	176	11.8	7.5
Literate/less than primary	315	14.9	304	19.9	<0.001
Primary	360	17.6	381	22.7	
Secondary	822	41.6	518	36.1	
College /University	211	12.7	120	9.5	
Marital status					
Single	215	13.6	135	10.7	3.6
Married	1645	81.5	1253	82.8	0.027
Others (widow/divorced/separated)	123	4.9	111	6.5	
Caste/Ethnicity					
Brahmin/Chhetri	948	48.3	772	51.5	1.0
Janajati	542	27.4	388	25.3	0.391
Dalit	308	15.0	229	13.7	
Others	185	9.3	110	9.5	
Religion					
Hindu	1604	80.3	1239	82.4	1.6

Non-Hindu	379	19.7	260	17.6	0.201
Occupation					
Agriculture	1335	64.2	839	55.6	16.3 <0.001
Service/Business	297	15.5	204	13.5	
Students/Unemployed	244	15.0	384	26.2	
Others	107	5.3	72	4.8	
Family income sufficient to manage foods for the period of					
Up to six months	352	16.8	29	1.7	126.0 <0.001
6 to 9 months	307	15.4	119	7.9	
9-12 months or above	1324	67.8	1351	90.4	
Clinical characteristics					
Screen positive on PHQ-9	228	11.1	118	7.6	9.3 0.002
Screen positive on AUDIT	96	5.0	74	4.9	0.04 0.839

* %, sample weighted percent; N, non-weighted sample size

4.3 Treatment coverage

The primary objective of the study was to assess change in treatment coverage from baseline to follow-up, separately for depression and AUD. Table 4 presents percentages of the participants who had sought treatment from a specialist, generalist, or other health care providers for symptoms related to depression and alcohol use disorder in the last one-year period. Of the total 118 participants with depression in the follow-up survey, 11.8% (n=13) reported that they had received treatment from any providers in the past 12 months; this proportion was not significantly different from the proportion reported at baseline (n=18; 8.1%; χ2=1.02, p=0.424). Similarly, the proportion of the participants receiving treatment for AUD from any providers in the follow-up survey (n=9; 10.3%) was not significantly different from that found at baseline (n=5; 5.1%; χ 2=1.678, p=0.235).

The results show that the changes in the proportions of the participants receiving treatment from generalists (e.g. medical doctors, health assistants) in the follow survey (n=4; 4.2% for depression and n=3; 3.2% for AUD) were not significantly different than that reported in the baseline (depression, n=5; 1.8%; $\chi2$=1.168, p= 0.281 and AUD, n=2; 1.3%: $\chi2$=2.706, p= 0.102) . There were no significant differences in the proportion of the participants with depression or AUD receiving treatment from traditional providers between baseline and follow-up survey. Likewise, there were no significant differences in the proportions of the participants receiving treatment from mental health specialists for both depression and AUD between baseline and follow survey (Table 4).

Table 4 Help-seeking by adults with depression or alcohol use disorder in the baseline and follow-up surveys

	Depression				AUD			
Types of providers	Baseline (N=228) n (%)*	Follow-up (N=118) n (%)	χ 2	P-value	Baseline N=96) n (%)	Follow-up (N=74) n (%)	χ 2	P-value
Receiving treatment in the past year from any providers	18 (8.1)	13 (11.8)	1.02	0.424	5 (5.1)	9 (10.3)	1.678	0.235
Type of service providers								
Generalists (e.g. Doctors and PHC workers)	5 (1.8)	4 (4.2)	1.168	0.281	2 (1.3)	3 (3.2)	2.706	0.102
Mental health specialists (e.g. psychiatrists, psychologists)	9 (3.6)	8 (5.6)	0.673	0.413	0	1 (1.6)	1.044	0.308
Others (Traditional healers, religious leaders)	8 (4.2)	5 (5.2)	0.082	0.774	4 (4.5)	3 (3.6)	0.061	0.805

** %, sample weighted percent; n, non-weighted frequency*

4.4 Change in overall and sub-scales scores on the BACE

The differences between baseline and follow-up scores on BACE scale and sub-scales were assessed using non-parametric test (Whitney U Test) (Table 5). I have presented results separately for depression and AUD.

Results show a significant reduction in the overall BACE score from baseline (median=34; IQR=25-43) to follow-up among participants with depression (median=30; IQR= 22-36; U=2.94; p=0.004). Scores on the financial barrier subscale also show a significant reduction from baseline (median= 4; IQR= 2-5) to follow-up (median= 3; IQR= 2-4; U= 4.41; p<0.001). Scores also decrease from baseline to follow-up on the stigma subscale (median= 14; IQR= 10-19 at baseline; median= 12; IQR 8-16 at follow-up; U= 2.89; p=0.004) and lack of support subscale (median= 3; IQR= 2-5 at baseline; median= 3; IQR= 1-3 at follow-up; U= 3.59; p<0.001). There was a significant increase in mean scores on the knowledge about the available services subscale (median= 1; IQR= 1-2 at baseline; median= 1; IQR= 1-2 at follow-up; U= -2.10; p<0.036).

For the AUD group, a significant decrease was found in the overall BACE score from baseline (median=32; IQR=20-42) to follow-up (median=26; IQR=16-33; U=2.53; p=0.011). Scores on the financial barrier subscale also show a significant reduction from baseline (median, 3; IQR, 2-5) to follow-up (median, 2; IQR 1-3; U, 4.11; p<0.001), as well as scores on the lack of support subscale (median, 3; IQR, 1-4 at baseline; median, 2; IQR 1-3 at follow-up; U, 3.48; p<0.001). A decrease in the stigma score (median=13; IQR=8-18 at baseline; median=11; IQR=6-14 at follow-up) was also found, but the difference was marginal (U=1.9; p=0.057).

Table 5 BACE overall and subscale scores in the baseline and follow-up surveys

	Baseline		Follow-up			
BACE overall and subscales	Median	IQR	Median	IQR	U	P
Depression (N=105)						
Overall BACE	34	25-43	30	22-36	2.91	0.004
Stigma	14	10-19	12	8-16	2.89	0.004
Financial barriers	4	2-5	3	2-4	4.41	<0.001
Cultural practices and beliefs	3	2-4	3	2-4	1.83	0.667
Low perceived needs	4	3-6	5	3-6	-1.05	0.293
Lack of knowledge about available services	1	1-2	1	1-2	-2.10	0.036
Perceived ineffectiveness of services	3	1-4	2	1-3	1.58	0.115
Lack of support	3	2-5	3	1-3	3.59	<0.001
AUD (N=66)						
Overall BACE	32	20-42	26	16-33	2.53	0.011
Stigma	13	8-18	11	6-14	1.90	0.057
Financial barriers	3	2-5	2	1-3	4.11	<0.001
Cultural practice and beliefs	3	2-4	3	2-3	1.46	0.144
Low perceived needs	4	2-6	4	2-5	0.72	0.475
Lack of knowledge about available services	1	1-2	1	1-2	0.72	0.470
Perceived ineffectiveness of services	2	1-3	1	0-3	0.74	0.460
Lack of support	3	1-4	2	1-3	3.48	<0.001

4.5 Barriers for receiving mental health care

Table 6 presents the perceived treatment barriers (barriers to any degree or major barrier) and mean scores for each BACE item among the participants with depression.

As indicated in Table 6, at the follow-up survey, the barriers with the highest mean score was “not being able to afford the financial costs involved” (mean =1.59 , SD=0.93), this barrier also had the highest mean score at baseline (mean =1.88, SD=0.85). On the other hand, the barrier with the lowest mean score at follow-up was “Mental health care from my own ethnic or cultural group not being available” (mean=0.38, sd=0.56), while the barriers with the lowest mean score at baseline was “concerns about the treatments available” (e.g. medication side effects) (mean=0.63, SD=0.69) (Table 6).

The five barriers to seek depression care reported as “major barrier” that show most improvement in the follow-up surveys were being too unwell to ask for help (8.1% at baseline and 1.5% at follow-up); not being able to afford the financial costs involved (22.5% at baseline and 17.1% at follow-up); preferring to get help from family or friends (6.2% at baseline and 1.1% at follow-up); wanting to solve the problem on their own (7.5% at baseline and 2.3% at follow-up) and having had previous bad experiences with mental health staff (5.0% at baseline and 0.7% at follow-up). On the other hand, the five barriers reported as “major barrier” which have seen an increase in reporting from baseline to follow-up study were thinking that they did not have a problem (7.4% at baseline and 16.6% at follow-up); being unsure where to go to get mental health care (8.2% at baseline and 13.0% at follow-up); preferring to get alternative forms of care (e.g. traditional/religious healing or alternative/complementary therapies) (3.5% at baseline and 8.1% at follow-up); concern that people might not take them seriously if they found out they were having mental health care (4.0% at baseline and 8.8% at follow-up) and feeling embarrassed or ashamed (4.1% at baseline and 7.2% at follow-up)

The barriers reported as “barrier to any degree” that showed significant improvement among participants with depression in the follow-up surveys ‘were not wanting a mental health problem in the medical records’ (58% at baseline and 34% at follow-up; χ2=

17.156, p<0.000) and ‘being too unwell to ask for help’ (87.0% at baseline and 66.9% at follow-up; $\chi 2=17.972$, p<0.000). The other five barriers to seek depression care reported as “barrier to any degree” that show most improvement in the follow-up surveys were concern that children may be taken into care or lose access or custody without their agreement (61.8% at baseline and 42.4% at follow-up); concern that they might be seen as bad parents (82% at baseline and 69.6% at follow-up); concern that it might harm them when applying for job (78.0% at baseline and 65.5% at follow-up); difficulties taking time off work (65.2% at baseline and 48.0% at follow-up) and having no one who could help to get mental health treatment (89.3% at baseline and 97.0% at follow-up). None of other items showed significant change from baseline to follow-up surveys after Bonferroni correction (Table 6). Significance levels for tables 6 and 7 were determined based on the number of comparisons included in the analysis.

Table 6 Change in barriers to mental health care (BACE items) among people with depression in the baseline and follow-up surveys

	Baseline (N=210)			Follow-up (N=105)			Barriers to any degree, χ2, p
Types of barriers	Item mean (SD)	Any degree n (%)*	Major n (%)*	Item mean (SD)	Any degree n (%)*	Major n (%)*	
Stigma-related barriers							
Concern that I might be seen as weak for having a mental health problem	1.47 (0.84)	186 (90.0)	24 (9.9)	1.41 (0.88)	89 (86.0)	12 (9.4)	1.24, 0.322
Concern that it might harm my chances when applying for jobs	1.20 (0.88)	162 (78.0)	16 (5.2)	0.89 (0.80)	68 (65.5)	3 (2.4)	5.892 0.037
Concern about what my family might think, say, do or feel	1.19 (0.84)	168 (78.2)	16 (6.5)	1.05 (0.78)	80 (77.8)	4 (3.0)	0.010 0.931
Feeling embarrassed or ashamed	1.30 (0.80)	179 (87.1)	13 (4.1)	1.25(0.81)	88 (85.3)	7 (7.2)	0.195 0.691
Concern that I might be seen as ‘crazy’	1.50 (0.86)	183 (85.3)	25 (11.0)	1.36 (0.88)	88 (82.2)	11 (13.3)	0.536 0.542
Concern that I might be seen as a bad parent	0.85 (0.75)	167 (82.0)	8 (3.6)	1.10 (0.80)	71 (69.6)	3 (5.2)	6.593 0.024
Concern that people I know might find out	1.28 (0.82)	174 (84.0)	13 (6.1)	1.22 (0.80)	88 (84.5)	7 (8.2)	0.017 0.909
Concern that people might not take me seriously if they found out I was having mental health care	1.11 (0.76)	170 (82.2)	10 (4.0)	1.14 (0.80)	86 (82.9)	8 (8.8)	0.024 0.893
Not wanting a mental health problem to be on my	0.80 (0.88)	116 (58.0)	11 (4.9)	0.44 (0.63)	38 (34.0)	0	17.156

	Baseline (N=210)			Follow-up (N=105)			Barriers to any degree, χ2, p
Types of barriers	Item mean (SD)	Any degree n (%)*	Major n (%)*	Item mean (SD)	Any degree n (%)*	Major n (%)*	
medical records							<0.000+
Concern that my children may be taken into care or that I may lose access or custody without my agreement	0.90 (0.86)	130 (61.8)	8 (3.4)	0.48 (0.64)	42 (42.4)	0	11.424 0.005
Concern about what my friends might think, say or do	1.27 (0.83)	174 (82.5)	16 (6.3)	1.15 (0.83)	83 (80.5)	7 (8.5)	0.194 0.697
Concern about what people at work might think, say or do	1.20 (0.81)	167 (80.0)	9 (4.5)	1.00 (0.83)	76 (73.5)	6 (7.5)	1.806 0.240
Financial barriers							
Problems with transport or travelling to appointments	0.98 (0.92)	133 (61.8)	14 (3.8)	0.62 (0.68)	53 (52.4)	0	2.754 0.156
Not being able to afford the financial costs involved	1.88 (0.85)	197 (92.8)	53 (22.5)	1.59 (0.93)	90 (87.2)	17 (17.1)	2.785 0.154
Difficulty taking time off work	0.90 (0.85)	132 (65.2)	9 (2.7)	0.56 (0.63)	51 (48.0)	0	9.151 0.010
Cultural beliefs and practices							-
Preferring to get alternative forms of care	1.01 (0.80)	153 (74.7)	8 (3.5)	1.19 (0.89)	81 (77.5)	9 (8.1)	
Mental health care from my own ethnic or cultural group not available	0.70 (0.76)	113 (57.0)	3 (1.43)	0.38 (0.56)	36 (36.4)	0	
Preferring to get help from family or friends	1.12 (0.82)	163 (79.0)	12 (6.2)	0.79 (0.74)	65 (64.0)	2 (1.1)	

	Baseline (N=210)			Follow-up (N=105)			Barriers to any degree, χ2, p
Types of barriers	Item mean (SD)	Any degree n (%)*	Major n (%)*	Item mean (SD)	Any degree n (%)*	Major n (%)*	
Fear of being put in hospital against my will	0.99 (0.83)	144 (69.1)	7 (3.2)	0.79 (0.72)	67 (66.5)	2 (2.6)	
Low perceived needs							-
Wanting to solve the problem on my own	1.17 (0.82)	168 (81.5)	14 (7.5)	1.1 (0.79)	80 (78.5)	3 (2.3)	
Thinking the problem would get better by itself	0.93 (0.88)	135 (63.4)	13 (6.1)	1.05 (0.81)	77 (73.9)	4 (3.5)	
Dislike of talking about my feelings, emotions or thoughts	1.36 (0.86)	179 (85.4)	22 (10.7)	1.31 (0.78)	92 (90.1)	7 (8.3)	
Thinking I did not have a problem	1.13 (0.81)	166 (80.0)	13 (7.4)	1.44 (0.96)	87 (80.5)	17 (16.6)	
Lack of knowledge about the available services							
Being unsure where to go to get mental health care	1.28 (0.91)	165 (80.3)	21 (8.2)	1.52 (0.91)	92 (88.5)	17 (13.0)	3.696 0.088
Perceived ineffectiveness of available services							
Concerns about the treatments available	0.63 (0.69)	110 (55.0)	2 (1.5)	0.47 (0.56)	46 (44.2)	0	
Thinking that mental health care probably would not help	0.84 (0.75)	138 (66.3)	6 (1.9)	1.04 (0.80)	81 (76.1)	6 (4.7)	
Having had previous bad experiences with mental health staff	0.97 (0.87)	141 (67.5)	14 (5.0)	0.58 (0.74)	46 (44.1)	1 (0.7)	
Lack of support							-
Having problems with childcare while I receive mental health care	0.87 (0.83)	129 (63.0)	7 (2.7)	0.65 (63)	59 (55.4)	0	1.713 0.265

	Baseline (N=210)			Follow-up (N=105)			Barriers to any degree, χ2, p
Types of barriers	Item mean (SD)	Any degree n (%)*	Major n (%)*	Item mean (SD)	Any degree n (%)*	Major n (%)*	
Having no one who could help me get mental health care	1.48 (0.84)	186 (89.3)	25 (8.3)	1.14 (0.81)	83 (79.0)	5 (3.4)	6.277 0.028
Being too unwell to ask for help	1.30 (0.81)	181 (87.0)	17 (8.1)	0.91 (0.76)	72 (66.9)	2 (1.5)	17.972 <0.000+

** %, sample weighted percent; n, non-weighted frequency, + P< 0.0026 for difference in barriers at follow-up survey reported as "barrier to any degree" (after Bonferroni correction)*

As indicated in Table 7, the barriers with the highest mean score at the follow-up survey was “not being able to afford the financial costs involved” (mean =1.49 , SD=0.92), this barriers had also the highest mean score at the baseline (mean =2.01, SD=0.93). On the other hand, the barrier with the lowest mean score at the follow-up was “mental health care from my own ethnic or cultural group not being available” (mean=0.35, sd=0.48), while the barriers with the lowest mean score at the baseline was “concerns about the treatments available” (e.g. medication side effects) (mean=0.56, SD=0.65) (Table 7).

The five barriers reported as “major barrier” that showed most improvement in the follow-up survey were not being able to offord the financial costs involved (24.8% at baseline and 10.6% at follow-up); concern that it might harm their chances when applying for jobs (10.9% at baseline and 2.4% at follow-up); concern that they might be seen as ‘crazy’ (12.2% at baseline and 4.1% at follow-up); not wanting a mental health problem to be on my medical records (6.1% at baseline and 0% at follow-up) and being too unwell to ask for help (7.8% at baseline and 1.3% at follow-up). On the other hand, the five barriers reported as “major barrier” which have seen an increase in reporting from baseline to follow-up study were thinking that they did not have a problem (7.6% at baseline and 14.1% at follow-up); thinking that mental health care probably would not help (0% at baseline and 3.4% at follow-up); being unsure where to go to get mental health care (13.1% at baseline and 15.2% at follow-up); feeling embarrassed or ashamed (6.1% at baseline and 8.1% at follow-up) and dislike of talking about their feelings, emotions or thoughts’ (5.9% at baseline and 7.3% at follow-up).

Table 7 also presents the perceived barriers (barriers to any degree) for receiving treatment reported by the participants with AUD. The results indicated that none of the barriers that reported as ‘barrier to any degree’ showed significant improvement in the follow-up surveys after Bonferroni correction. The five barriers reported as “barriers to some degree” that showed most improvement in the follow-up survey were fear of being put in hospital against their will (69.2% at baseline and 38.6% at follow-up); difficulty taking time off work (63.3% at baseline and 36.6% at follow-up); concern that children may be taken into care or lose access or custody without their agreement (58.0% at baseline and 35.5% at follow-up); problems with transport or travelling to appointments (55.4% at baseline and 34.4% at follow-up) and concern that it might harm them when applying for job (71.6% at baseline and 53.6% at follow-up; $\chi 2=5.444$, $p=0.040$) (Table 7).

Table 7 Change in barriers to mental health care (BACE items) among people with AUD in the baseline and follow-up surveys

	Baseline (N=91)			Follow-up (N=66)			Barriers to any degree, χ2, p
Types of barriers	Item mean (SD)	Any degree n (%)*	Major n (%)*	Item mean (SD)	Any degree n (%)*	Major n (%)*	
Stigma-related barriers							
Concern that I might be seen as weak for having a mental health problem	1.47 (0.91)	78 (88.3)	13 (10.3)	1.18 (0.86)	52 (77.8)	6 (11.3)	3.070 0.110
Concern that it might harm my chances when applying for jobs	1.16 (1.0)	63 (71.6)	11 (10.9)	0.77 (0.82)	36 (53.6)	2 (2.4)	5.444 0.040
Concern about what my family might think, say, do or feel	0.98 (0.86)	61 (70.0)	4 (3.2)	0.91 (0.80)	43 (63.1)	2 (2.2)	0.743 0.443
Feeling embarrassed or ashamed	1.37 (0.78)	81 (90.5)	7 (6.1)	1.17 (0.88)	51 (76.1)	6 (8.1)	5.937 0.027
Concern that I might be seen as ‘crazy’	1.36 (0.97)	71 (79.5)	12 (12.2)	1.18 (0.83)	50 (74.6)	2 (4.1)	0.530 0.526
Concern that I might be seen as a bad parent	0.84 (0.79)	58 (62.0)	3 (2.0)	0.68 (0.75)	34 (47.8)	1 (1.10)	3.138 0.145
Concern that people I know might find out	1.10 (0.92)	62 (66.0)	6 (5.4)	1.12 (0.80)	51 (76.8)	3 (4.9)	2. 205 0.197
Concern that people might not take me seriously if they found out I was having mental health care	1.01 (0.87)	66 (74.0)	6 (4.5)	1.05 (0.78)	49 (75.1)	2 (2.4)	0.022 0.896

	Baseline (N=91)			Follow-up (N=66)			Barriers to any degree, χ2, p
Types of barriers	Item mean (SD)	Any degree n (%)*	Major n (%)*	Item mean (SD)	Any degree n (%)*	Major n (%)*	
Not wanting a mental health problem to be on my medical records	0.67 (0.88)	42 (42.5)	6 (6.1)	0.48 (0.62)	27 (37.0)	0 (0)	0.489 0.536
Concern that my children may be taken into care or that I may lose access or custody without my agreement	0.73 (0.73)	51 (58.0)	0 (0)	0.38 (0.55)	24 (35.4)	0 (0)	7.959 0.012
Concern about what my friends might think, say or do	1.15 (0.95)	64 (73.0)	8 (6.0)	0.89 (0.73)	46 (69.1)	2 (3.8)	0.275 0.644
Concern about what people at work might think, say or do	1.14 (0.91)	67 (75.1)	8 (6.8)	0.83 (0.67)	44 (66.2)	0 (0)	1.492 0.277
Financial barriers							
Problems with transport or travelling to appointments	0.75 (0.86)	47 (55.4)	5 (4.7)	0.45 (0.61)	25 (34.4)	0 (0)	6.906 0.022
Not being able to afford the financial costs involved	2.01 (0.82)	87 (96.5)	27 (24.8)	1.49 (0.92)	55 (84.8)	9 (10.6)	6.429 0.009
Difficulty taking time off work	0.78 (0.76)	56 (63.3)	3 (2.1)	0.48 (0.69)	24 (36.6)	0 (0)	11.101 0.004
Cultural beliefs and practices							-
Preferring to get alternative forms of care	1.23 (0.89)	74 (80.4)	11 (10.1)	1.18 (0.79)	53 (83.1)	3 (4.8)	
Mental health care from my own ethnic or cultural	0.65 (0.75)	46 (51.0)	1 (0.5)	0.35 (0.48)	23 (32.6)	0 (0)	

	Baseline (N=91)			Follow-up (N=66)			Barriers to any degree, χ2, p
Types of barriers	Item mean (SD)	Any degree n (%)*	Major n (%)*	Item mean (SD)	Any degree n (%)*	Major n (%)*	
group not available							
Preferring to get help from family or friends	0.89 (0.78)	58 (65.2)	0 (0)	0.80 (0.79)	40 (61.4)	3 (4.5)	
Fear of being put in hospital against my will	0.86 (0.75)	61 (69.2)	3 (2.6)	0.58 (0.83)	26 (38.6)	2 (2.4)	
Low perceived needs							-
Wanting to solve the problem on my own	1.12 (0.89)	67 (74.3)	7 (7.7)	0.97 (0.87)	43 (69.0)	3 (4.0)	
Thinking the problem would get better by itself	0.85 (0.79)	57 (62.5)	2 (1.9)	0.74 (0.80)	36 (57.7)	2 (2.2)	
Dislike of talking about my feelings, emotions or thoughts	1.15 (0.86)	71 (75.8)	6 (5.9)	1.14 (0.81)	52 (82.5)	4 (7.3)	
Thinking I did not have a problem	1.10 (0.87)	68 (74.7)	7 (6.4)	1.29 (0.95)	50 (76.3)	7 (14.1)	
Lack of knowledge							
Being unsure where to go to get mental health care	1.43 (0.99)	73 (83.5)	15 (13.1)	1.32 (0.97)	52 (79.2)	10 (15.2)	
Perceived ineffectiveness of available services							-
Concerns about the treatments available	0.56 (0.65)	44 (45.2)	1 (1.4)	0.52 (0.64)	29 (40.5)	0 (0)	
Thinking that mental health care probably would not help	0.73 (0.63)	58 (64.9)	0 (0)	0.78 (0.74)	40 (62.8)	1 (3.4)	
Having had previous bad experiences with mental health staff	0.84 (0.79)	57 (62.5)	3 (3.0)	0.63 (0.74)	31 (46.4)	0 (0)	
Lack of support							

	Baseline (N=91)			Follow-up (N=66)			Barriers to any degree, $\chi2$, p
Types of barriers	Item mean (SD)	Any degree n (%)*	Major n (%)*	Item mean (SD)	Any degree n (%)*	Major n (%)*	
Having problems with childcare while I receive mental health care	0.72 (0.78)	50 (57.5)	2 (1.1)	0.91 (0.56)	44 (37.0)	2 (3.3)	6.574 0.024
Having no one who could help me get mental health care	1.24 (0.86)	73 (80.0)	7 (6.5)	0.41 (0.79)	25 (66.7.0)	0 (0)	3.495 0.089
Being too Unwell to ask for help	1.23 (0.92)	70 (80.1)	9 (7.8)	0.83 (0.70)	44 (63.8)	1 (1.3)	5.489 0.030

** %, sample weighted percent; n, non-weighted frequency*

4.6 Factors associated with help seeking behaviour

Factors associated with help seeking behaviours of people with depression or alcohol use disorder, assessed using unadjusted logistic regressions, are presented in Table 8. Results show that none of the socio-demographic characteristics were associated with help-seeking behaviour of the participants with depression or AUD at follow-up. While the overall BACE score was not associated with help-seeking behaviour at follow-up, cultural practices and beliefs is significantly associated with help-seeking behaviour. Participants with greater scores on the cultural practices and beliefs sub-scale had lower odds of receiving mental health treatment in the past 12 months (OR=0.65; CI=0.46 – 0.92; p=0.015). Similarly, participants reporting more financial barriers were less likely (OR=0.73 and CI=0.53 – 1.00) to receive mental health care compared to those who reported less financial barriers but the difference was marginal (p=0.052). Likewise, the results also indicated that the participants experiencing greater lack of support were less likely (OR=0.72 and CI=0.51 – 1.01) to receive care than their counterparts who reported greater support; again, the difference was marginal (p=0.057) (Table 8).

Table 8 Factors associated with receiving treatment from any health provider in the past 12 months at the follow-up survey

Variables	Received treatment in the past 12 months		Odds ratio (95% CI)	P value
	No (n (%))	Yes (n (%))		
Socio-demographics				
Sex				
Male	65 (85.5)	11 (14.5)	1	-
Female	88 (88.9)	11 (11.1)	0.74 (0.30 – 1.81)	0.507
Age				
Age per year increase (Mean (SD))	41.4 (15.9)	43.8 (13.0)	1.01 (0.98 – 1.04)	0. 494
Religion				

Hindu	130 (88.4)	17 (11.6)	1	-
Non-Hindu	23 (42.1)	5 (17.9)	1.66 (0.56 – 4.95)	0.361
Education				
No schooling/Illiterate	30 (90.9)	3 (9.1)	1	-
Primary or less than primary	73 (82.0)	16 (18.0)	1.91 (0.59 – 8.07)	0.613
Secondary or higher	50 (94.3)	3 (5.7)	0.60 (0.11 – 3.16)	0.113
Marital status				
Single	6 (85.7)	1 (14.3)	1	-
Ever married	147 (87.5)	21 (12.5)	0.86 (0.98 – 7.47)	0.889
Caste/Ethnicity				
Brahmin/Chhetri	61 (85.9)	10 (14.1)	1	-
Janajati	36 (87.8)	5 (12.2)	0.85 (0.27 – 2.67)	0.777
Other	56 (88.9)	7 (11.1)	0.67 (0.27 – 2.13)	0.606
Occupation				
Agriculture	81 (87.1)	12 (12.9)	1	
Service/Business	19 (79.2)	5 (20.8)	1.78 (0.56 – 5.65)	0.330
Other	53 (91.4)	5 (8.6)	0.64 (0.21 – 1.91)	0.421
	No (Mean (SD))	Yes (Mean (SD))	Odds ratio (95% CI)	P value
Barriers to mental health care				
Overall BACE	27.4 (12.5)	22.5 (13.3)	0.97 (0.93 – 1.00)	0.093
Stigma	11.3 (6.7)	9.2 (7.1)	0.95 (0.89 – 1.02)	0.169
Financial barriers	2.6 (1.6)	1.9 (1.5)	0.73 (0.53 – 1.00)	**0.052**
Low perceived needs	4.3 (2.1)	4.0 (2.4)	0.93 (0.75 – 1.15)	0.499
Cultural practice and beliefs	2.6 (1.5)	1.8 (1.2)	0. 65 (0.46 – 0.92)	**0.015**
Lack of support	2.6 (5.3)	1.5 (1.5)	0.72 (0.51 – 1.01)	**0.057**
Lack of knowledge about available services	1.4 (0.9)	1.4 (1.1)	0.99 (0.61 – 1.61)	0.965
Perceived ineffectiveness of services	2.0 (1.7)	1.6 (1.7)	0.84 (0.62 – 1.14)	0.256

CHAPTER FIVE: DISCUSSION AND CONCLUSION

5.1 Discussion

This study assessed changes in treatment coverage and barriers to mental health care among people with depression and AUD in Chitwan, Nepal. The study revealed a very large treatment gap in both baseline and the follow-up surveys for depression (91.9% at baseline survey and 88.2% at follow-up) and AUD (89.7% at follow-up and 94.9% at baseline survey). The proportion of the participants receiving treatment for depression at the follow-up survey increased by 3.7 points (from 8.1% in the baseline to 11.8% in the follow-up); however, the change was not statistically significant. Similarly, the proportion of the participants receiving treatment for AUD at the follow-up survey increased by 5.2 points (from 5.1% in the baseline to 10.3% in the follow-up study) but the change was also not statistically significant. The results also demonstrated a non-significant change in the proportion of participants receiving mental health treatment from generalists health care workers (e.g. trained medical doctors, health assistants, auxiliary health workers) for both depression (1.8% in the baseline to 4.2% in the follow-up) and AUD (1.3% in the baseline and 3.2% the follow-up).

These findings demonstrated a high level of unmet needs among people with depression and AUD in Nepal. The treatment contact coverage for depression reported in the follow-up survey was much smaller than that found in other LMICs. For example, studies conducted in 10 LMICs as a part of WHO world mental health survey initiatives reported that 52.6% people with the need of depression care had contacted any service provider in the past 12 months (Thornicroft et al., 2017). Similarly, the reported contact coverage for depression in the follow-up study was also smaller than that found in nationally representative studies in South Africa (15.3%) (Seedat et al., 2009), Central India (23.5%), Ethiopia (23.7%) (Rathod et al., 2016) and Northern India (21%) (Mathias et al., 2015). However, the treatment contact coverage reported in the follow-up survey was larger than that found in China (3.4%) (Shen et al., 2006), Korea (6.1%) (Cho et al., 2009); Nigeria (1.6%); Colombia (5.5%) and Ukraine (7.2%). Similarly, the treatment contact coverage reported for AUD in the follow-up survey was smaller than that found in Ethiopia (13.1%) (Nalwadda et al., 2018); however, this was larger than that found in central India (2.8%), Uganda (3.5%) (Rathod et al., 2016) and South Africa (Seedat et al., 2009).

Only a few studies have investigated the effectiveness of community based programmes to improve treatment coverage on mental health care in LMICs. The available studies demonstrated mixed findings on the effectiveness of community mental health programs in increasing treatment contact coverage. For example, an evaluation study of a integrated mental health program in India and Pakistan showed a significant improvement in the treatment contact coverage on mental health care in India; however, the results were not promising in Pakistan (James et al., 2002). The treatment contact coverage for depression increased 6-times (i.e. 4.3% in the baseline to 27.2% in the endline) in a 18-month interval community survey conducted as part of VISHRAM (Vidarbha Stress and Health Programme) project in central India (Shidhaye et al., 2017). The results of this study (i.e. non-significant change in treatment coverage) are also consistent with a community survey coducted in central India where non-significant change was found in treatment coverage for both depressiona and AUD (Shidhaye et al., 2019).

Despite the efforts made by PRIME at community level to sensitize the general community on mental health issues, available services, and engagement of FCHVs on detection of people with mental illness in the community, the proportion of the participant receiving mental health services reported in the follow-up survey is much smaller than anticipated. This has also been supported by the significant reductions in few important barriers to care such as financial barriers, stigma and lack of support for both depression and AUD groups in the follow-up survey. Likewise, the CIDT, which was developed to facilitate the detection of people with probable mental health problems in the community, has shown effective to increase help seeking behaviour among people in the same community in Chitwan (Jordans, Kohrt, et al., 2017). Similarly, the ability of trained primary health care workers to detect mental health problems in the health facilities also increased significantly after the introduction of the mhGAP-based training program (Jordans, Luitel, Kohrt, et al., 2019).

The possible reasons for not achieving a significant change in the treatment contact coverage could be explained by a number of methodological factors. First, the distal nature of the outcome in relation to the intervention, and the small number of people screened positive for depression and AUD might have been insufficient to detect a change in treatment contact coverage. This is borne out by the fact that measures of the number of people utilizing services over the period of implementing the district MHCP did show a significant increase in the number of people utilizing services (Jordans, Luitel, Kohrt, et al., 2019). Second, the relatively short time period between the baseline and follow-up surveys may not have been sufficient. A wider interval, or a second follow-up survey may have provided better opportunity to show trends over time. Finally, local idioms of distress, particularly for depression, may not have been adequately captured by the PHQ9, which may have had an impact on the population identified within the sample as needing mental health care.

Furthermore, in Nepal the understanding and expression of mental health and psychosocial problems is also complex among the various ethnic and cultural groups. In general, heart-mind (*man*) is believed as an organ of emotion and feeling while brain-mind (*dimaag*) is considered as an organ of cognition and social behaviour (Kohrt & Harper, 2008). In Nepali language, there are no appropriate terms that directly translate biomedical psychiatric categories such as depression or PTSD. The idioms related to mental illness (*manasik rog or manasik samasya*) represent problems with the brain-mind which are often perceived as incurable and also highly stigmatized whereas the idioms related to the heart-mind (*man ko samasya*) are presented as something that can be healed and generally socially acceptable to discuss. The term “heart-mind” problem was used in the PRIME community sensitization programs; however, the brochures of four priority disorders, which were distributed widely in the community, had included the terms directly translated from biomedical psychiatric categories. This could be one of the reasons why individuals with mental health problems might have been reluctant to receive services from health facilities.

Another possible explanation for non-significant improvements in treatment coverage could be the fact that there were no targeted community level interventions for specific barriers in the PRIME MHCP. For example, the PRIME community sensitization program mostly targeted increasing mental health literacy, and making people aware about the services available in their community. Previous studies have demonstrated that mental health literacy can help to change attitude but there is no evidence that literacy programs help to improve help-seeking (Gulliver et al., 2012). There is evidence that help-seeking attitudes and intention can predict behaviour (ten Have et al., 2010). For this reason, previous studies have recommended targeting improvements in help-seeking attitudes and intention in community sensitization programs (Gulliver et al., 2012). Thus, the hypothesized mechanisms of change, presented in the conceptual framework, that PRIME had anticipated from its community level intervention packages did not appear to work. It was hypothesized that treatment coverage would increase significantly when mental health services are made available in primary and community care setting, and when the community people are informed about the services. However, the results suggested that making mental health services available is not necessarily sufficient to improve treatment coverage, which is also supported by previous studies (Roberts et al., 2018), where no significant associations were found between enabling factors and help-seeking.

A large proportion of the participants who did not receive any treatment in the past 12 months in the follow-up survey reported that they did not receive treatment because of stigma and non-stigma related barriers. The most frequently reported barriers to treatment for depression and AUD in the follow-up survey were lack of interest in talking about one’s feelings, emotions, or thoughts; lack of information about treatment places; fear of being perceived as weak for having a mental health problem; feeling embarrassed or ashamed; lacking financial means to afford care; and preferring alternative treatment. The most commonly reported barriers for treatment in the follow-up survey were consistent with the studies conducted in India and Pakistan (Atif et al., 2017; James et al., 2002; Maulik et al., 2017; Sagar et al., 2017), South Africa (Egbe et al., 2014; Goldstone & Bantjes, 2017; Sathyanath et al., 2016), Uganda (Nakku et al., 2016; Ssebunnya et al., 2009), South Sudan (Ayazi et al., 2014), Zambia (Kapungwe et al., 2011) and western Nepal (Angdembe, Kohrt, Jordans, Rimal, & Luitel, 2017).

Although there was not much improvement in the individual barriers item; the results demonstrated a significant reduction in the overall BACE score and the specific BACE domains scores pertaining to stigma, financial barriers and lack of support in both depression and AUD groups. The significant improvements in the financial barriers could be the reason that all services included in the PRIME MHCP (including psychotropic medicines) were offered free of cost. Similarly, involvement of FCHVs in detection, referral and homebased care could be one of the important factors to lead a significant reduction in barriers related to “lack of support” to get services. Community awareness and sensitization program could have played important roles for reducing stigma related barriers, especially perceived barriers on mental health care. The available data also demonstrated that community sensitization programs including public campaign and social contacts, as an effective strategy to change attitudes and behaviours related to mental illness and reducing stigma related help-seeking (Ayazi et al., 2014; Egbe et al., 2014; Thornicroft et al., 2016). Our results are consistent with the study conducted in Andra Pradesh, India where they found a significant improvements in stigma related helpful-seeking (Maulik et al., 2017). Our results are also consistants with the study conducted in Rawalpindi, Pakistan and Bangolare, India where they found a significant reduction in financial barriers and stigma related barriers after three months, especially being embrassed to received services (James et al., 2002).

I did not find any association between socio-demograpic characteristics and help seeking behaviour among participants with depression and AUD in the follow survey. These results contrast with the finding from a systematic review on factors associated with health service utilization for common mental diorders where three broad factors such as pre-disposing factors (female gender, ethnicity, higher education and being an unmarried), need factors (such as self evaluated health status, perceived need of care, duration of symptoms, disability, comorbidity) and enabling factors (income and place of residence) were found to be associated with help seeking behaviour of people with common mental disorders (Roberts et al., 2018). As PRIME community surveys (both baseline and follow-up) lack data on needs factors; the role of needs factors in this study could not be analyzed. This has also been discussed further in the limitations section. The results of this study also contrast with the results reported in the Brazilian national survey (Lopes, Hellwig, GA, & Menezes, 2016) and WHO World Mental Health Survey Initiatives (Wang et al., 2007) where female gender, higher age, higher education and white caste/ethnicity were independently associated with higher likelihood of access to any treatment. The result of this study also contrast with the recent the WMHS where education had significant association with help-seeking (Evans-Lacko et al., 2018). On the other hand, the findings of this study are consistent with the results found in the nationally representative survey in South Africa where age, education, marital status and income were not significantly associated with mental health care (Seedat et al., 2009). Among the various barriers, cultural practices and beliefs was the only barrier that was significantly associated with the help seeking behaviour of the participants. People having greater cultural practices and beliefs were less likely to receive mental health services. Given the very strong community misperceptions and beliefs on causes and treatment process of mental health problems, this is not a surprising result. In Nepal, there is a belief that mental illnesses are not treatable because they are primarily due to a person's sinful act in the past life or are a result of a curse by witchcraft or evil spirits (Angdembe et al., 2017; Sapkota, Shakya, Adhikari, Pandey, & Shyangwa, 2016). Marginal associations between help seeking behaviour and lack of support also suggest that participants having greater financial barriers or having no one to support them to get treatment were less likely to receive mental health services. Results of this study also contrast with previous studies where economic factors did not show a significant role in predicting help-seeking behaviour (Andrews, Issakidis, & Carter, 2001; Evans-Lacko et al., 2018) whereas in this study, economic /financial problems have been reported as the most pressing barriers for health care utilization.

5.1.1 Limitations

This study has limitations that may have impacted comparisons for pre- and post-service utlization. First, a low proportion of male participants in both baseline and the follow-up survey, which could be explained by a high out-migration of the adult male population in the study areas. The recent census recorded an absent population of 7.3% i.e. 1,921,494, of which 87.6% were male and 12.4% were female (Central Bureau of Statistics, 2014). Similarly, a significantly larger proportion of participants in the follow-up survey were from the households with sufficient family income for foods for 9 to 12 months compared to baseline. This might have impacted on the difference identified in help seeking behaviours of the participants from baseline to follow-up. Second, the prevalence of people screening positive for depression and AUD in both surveys was relatively lower than anticipated (Rathod et al., 2016), and so was less than 80% statistical power to detect a 20% change in treatment-seeking. Third, due to a small number of participants receiving treatment for depression and AUD, both disorders have been combined in the regression analysis to assess the factors associated with health seeking behaviour at the follow-up survey. Yet help seeking behaviour might be different for individuals suffering from depression and AUD. Fourth, the PHQ9 which was used to screen for depression has approximately 6 false positive per 10 patients screening positive for depression with less than one per 100 false negatives (Kohrt et al., 2016). Therefore, it is not unclear how many individuals who screened positive were actually depressed and needed treatments (Kagee, Tsai, Lund, & Tomlinson, 2013; Patel et al., 2018; Roberts et al., 2018). Fifth, due to lack of data on exposure to PRIME community level intervention (i.e. how many people in the sample had exposed to the PRIME community level activities), it is not unclear if any change reported in the treatment contract coverage and barriers to care was due to PRIME community level interventions. Sixth, the PRIME community baseline and follow-up surveys lack data relating to needs factors, and in particular relating to participants' subjective perception of their own health care needs for mental health services, and other contextual factors such as distance to health facilities or health care environment, which are reported to be a significant predictor for help-seeking behaviour (Roberts et al., 2018). Finally, although the results show a very large treatment gap for depression and

AUD in both baseline and follow-up surveys, it is acknowledged that people have their own choice to not utilize services or get alternative forms of care that are congruent with their own explanatory models, and this study does not intend to be prescriptive in this regard.

5.1.2 Implications

This study has assessed the changes in treatment contact coverage and barriers to mental health care, one of the neglected areas of healthcare system in Nepal. Despite non-significant results on treatment contact coverage, the findings of this study may have several implications in policy and some of the directions for future research.

5.1.2.1 Policy implications

The findings of this study may be important for policy makers to improve access to mental health services through primary and community health care system in Nepal. First, the results demonstrated that the proportions of the participants receiving mental health services increased at the follow-up survey after introducing the evidence-based treatment program in primary and community healthcare system. However, this change was not statistically significant, requiring further examination of whether this strategy has the potential to reduce the alarming treatment gap in mental health care in Nepal.

Second, the results also indicated that a significant number of the participants with both depression and AUD were not aware of mental health services available in the district, or they had a belief that mental health services are not helpful. This could be one of the reasons for many people receiving treatment provided by traditional providers or following other forms of treatments. This indicated that making service available in the health facilities may not necessarily be sufficient to increase treatment coverage. In addition, there was a strong association between stigma, cultural practices and beliefs and help seeking. Therefore, awareness and anti-stigma program should be implemented in both health facilites and in the communities to sensitize people on mental health problems, available services and its treatment process.

Third, despite the efforts made at the community level to minimize barriers to mental health care, the results demonstrated that there was no significant changes in the barriers related to perceived effectiveness of the mental health services, cultural beliefs and practices and low perceived needs in both depression and AUD groups. The contents included in the existing community sensitization program may not be sufficient to convince people with mental illness about the needs, and effectiveness of the available mental health services. Therefore, the contents of the existing community sensitization program may need to be revised and additional contents related to effectiveness of the available mental health servcies included.

A fourth important implication of our study is towards improving infrastructure and quality of the available services in primary care. In general, most of the primary health care facilities in the study sites lack separate and confidential rooms for consultations. Due to huge stigma and discrimination associated with mental illness, people generally do not want to share their problems in front of other people. This has also been supported by the proportion of the participants reporting a high level of perceived stigma in the follow-up survey. This has also been supported by a qualitative study conducted with service providers in Chitwan, where "lack of confidential place" was reported as one of the most important system level barriers to integrate mental health services into primary care (N. Upadhaya et al., Under Review). Therefore, a separate and confidential place should be made available in each health facilities for consultation.

Fifth, the results suggested that negative attitudes towards mental health service use are highly prevalent in both baseline and follow-up survey. Prior studies reported no positive impact of public literacy about mental illness to reduce stigma or against stigmatization (G. Schomerus et al., 2012), and stigma were not always caused by lack of knowledge on mental illness (Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000). Therefore, future community interventions, particularly the communiy sensitization programs, should target reducing stigma or negative attitudes towards mental health service use rather than just providing information about mental illness and available services. Service users' involvement in the community sensitization programs found to be effective for reducing negative attitude towards mental illness (Corrigan et al., 2002; Mehta et al., 2015; Thornicroft et al., 2016); therefore, involvement of mental health service users in community sensitization program could be an effective strategy to reduce stigma associated with mental illnes. Seventh, considering high stigma associated with mental illness in the community, use of non-stigmatizing and culturally appropriate terminology is very important. The word "mental health" is generally used for severe mental health problems and highly stigmatized. The word heart-mind (manko samasyaa) or heart-mind-social problems (manosamaajik samasyaa) are considered appropriate and non-stigmatized termonologies, especially for common mental health problems. Therefore, non-stigmatized words should be used in the community sensitization program. Finally the results demonstrated that none of the socio-demographic characteristics were associated with help-seeking behaviour of people with depression and AUD in the follow-up survey. Therefore, a population-wide approach can be effective in promoting help-seeking behaviour of people with depression and AUD.

5.1.2.2 Implications for future research

The following implications for future research follow from the above findings: First, studies with larger representative samples and more than one follow-up assessment should be undertaken to measure change in treatment coverage at the population level. Second, further research is needed to investigate the effects of community awareness program in help-seeking intention and help-seeking behaviour. Third, future studies should include mixed methods approaches with data which were not able to include in this study, for example distance to facilities, to assess the impact of community sensitization programmes on reducing a wide range of barriers to care.

5.2 Conclusion

This is the first study conducted to assess changes in treatment coverage and barriers to mental health care among people with depression and AUD in Nepal. The study found minor improvements in treatment coverage following implementation of the PRIME MHCP, but these improvements were not statistically significant. However, the results demonstrated a significant reduction in barriers to mental health care before and after implementation of the district mental health care plan. There was a significant reduction in the overall BACE score, and the specific BACE domains scores pertaining to financial barriers, stigma and lack of support in the follow-up survey for both depression and AUD. Despite the significant reduction in barriers to mental health care in the follow-up survey, this did not translate into an actual change in treatment coverage. The possible reasons for non-significant changes in treatment coverage could be explained by a number of potential factors including lack of targeted community level interventions for specific barriers in the PRIME MHCP, the distal nature of the outcome in relation to the intervention, and the small number of people screened positive for depression and AUD to detect a change. The key areas for improvement in the implementation of the district mental health care plan included establishment of a confidential place for consultation in each health facility, and targeted community awareness and sensitization programmes to improve help-seeking attitudes, intention and behaviour.

6. REFERENCES

Abdulmalik, J., Kola, L., & Fadahunsi, W. (2013). Country contextualization of the mental health gap action programme intervention guide: a case study from Nigeria. *PLoS Med*. doi:10:e1001501

Ajzen, I. (2011). The theory of planned behaviour: reactions and reflections. *Psychol Health, 26*(9), 1113-1127. doi:10.1080/08870446.2011.613995

Ali, S. H., & Agyapong, V. I. O. (2016). Barriers to mental health service utilisation in Sudan - perspectives of carers and psychiatrists. *BMC Health Serv Res, 16*, 31. doi:10.1186/s12913-016-1280-2

Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: does it matter? *J Health Soc Behav, 36*(1), 1-10.

Andersen, R. M., & Newman, J. F. (1973). *Societal and individual determinants of medical care utilization in the United States* (Vol. 51).

Andrade, L. H., Alonso, J., Mneimneh, Z., Wells, J. E., Al-Hamzawi, A., Borges, G., . . . Kessler, R. C. (2014). Barriers to mental health treatment: results from the WHO World Mental Health surveys. *Psychol Med, 44*(6), 1303-1317. doi:10.1017/s0033291713001943

Andrews, G., Issakidis, C., & Carter, G. (2001). Shortfall in mental health service utilisation. *British Journal of Psychiatry, 179*, 417-425. doi:10.1192/bjp.179.5.417

Angdembe, M., Kohrt, B. A., Jordans, M., Rimal, D., & Luitel, N. P. (2017). Situational analysis to inform development of primary care and community-based mental health services for severe mental disorders in Nepal. *Int J Ment Health Syst, 11*, 69. doi:10.1186/s13033-017-0176-9

Archer, J., Bower, P., Gilbody, S., Lovell, K., Richards, D., Gask, L., . . . Coventry, P. (2012). Collaborative care for depression and anxiety problems. *Cochrane Database Syst Rev, 10*, Cd006525. doi:10.1002/14651858.CD006525.pub2

Atif, N., Krishna, R. N., Sikander, S., Lazarus, A., Nisar, A., Ahmad, I., . . . Rahman, A. (2017). Mother-to-mother therapy in India and Pakistan: adaptation and feasibility evaluation of the peer-delivered Thinking Healthy Programme. *BMC Psychiatry, 17*(1), 79. doi:10.1186/s12888-017-1244-z

Atif, N., Lovell, K., Husain, N., Sikander, S., Patel, V., & Rahman, A. (2016). Barefoot therapists: barriers and facilitators to delivering maternal mental health care through peer volunteers in Pakistan: a qualitative study. *Int J Ment Health Syst, 10*, 24. doi:10.1186/s13033-016-0055-9

Ayazi, T., Lien, L., Eide, A., Shadar, E. J., & Hauff, E. (2014). Community attitudes and social distance towards the mentally ill in South Sudan: a survey from a post-conflict setting with no mental health services. *Soc Psychiatry Psychiatr Epidemiol, 49*(5), 771-780. doi:10.1007/s00127-013-0775-y

Baron, E. C., Rathod, S. D., Hanlon, C., Prince, M., Fedaku, A., Kigozi, F., . . . De Silva, M. (2018). Impact of district mental health care plans on symptom severity and functioning of patients with priority mental health conditions: the Programme for Improving Mental Health Care (PRIME) cohort protocol. *BMC Psychiatry, 18*(1), 61. doi:10.1186/s12888-018-1642-x

Barrera, A. Z., Torres, L. D., & Munoz, R. F. (2007). Prevention of depression: the state of the science at the beginning of the 21st Century. *International Review of Psychiatry (Abingdon, England), 19*(6), 655-670. doi:10.1080/09540260701797894

Bennett Lynn, Dilli Ram Dahal, & Pav Govindasamy. (2008). *Caste, Ethnic and Regional Identity in Nepal: Further Analysis of the 2006 Nepal Demographic and Health Survey.* . Calverton, Maryland, USA: Macro International In.

Blumenthal, R., & Endicott, J. (1996). Barriers to seeking treatment for major depression. *Depress Anxiety, 4*(6), 273-278. doi:10.1002/(sici)1520-6394(1996)4:6<273::aid-da3>3.0.co;2-d

Bonabi, H., Muller, M., Ajdacic-Gross, V., Eisele, J., Rodgers, S., Seifritz, E., . . . Rusch, N. (2016). Mental Health Literacy, Attitudes to Help Seeking, and Perceived Need as Predictors of Mental Health Service Use: A Longitudinal Study. *J Nerv Ment Dis, 204*(4), 321-324. doi:10.1097/nmd.0000000000000488

Brenman, N. F., Luitel, N. P., Mall, S., & Jordans, M. J. (2014). Demand and access to mental health services: a qualitative formative study in Nepal. *BMC Int Health Hum Rights, 14*, 22. doi:10.1186/1472-698x-14-22

Central Bureau of Statistics. (2011). *National Population Census* Kathmandu.

Central Bureau of Statistics. (2014). *Population Monograph of Nepal-Population Dynamics* (Vol. Vol I). Kathmandu: Government of Nepal.

Cho, S. J., Lee, J. Y., Hong, J. P., Lee, H. B., Cho, M. J., & Hahm, B. J. (2009). Mental health service use in a nationwide sample of Korean adults. *Soc Psychiatry Psychiatr Epidemiol, 44*(11), 943-951. doi:10.1007/s00127-009-0015-7

Clement, S., Brohan, E., Jeffery, D., Henderson, C., Hatch, S. L., & Thornicroft, G. (2012). Development and psychometric properties the Barriers to Access to Care Evaluation scale (BACE) related to people with mental ill health. *BMC Psychiatry, 12*(1), 36. doi:10.1186/1471-244X-12-36

Codony, M., Alonso, J., Almansa, J., Bernert, S., de Girolamo, G., de Graaf, R., . . . Kessler, R. C. (2009). Perceived need for mental health care and service use among adults in Western Europe: results of the ESEMeD project. *Psychiatr Serv, 60*(8), 1051-1058. doi:10.1176/appi.ps.60.8.1051

10.1176/ps.2009.60.8.1051

Cohen, A. (2001). *The effectiveness of mental health services in primary care: the view from the developing world*. Geneva: World Health Organization

Corrigan, P. W., Rowan, D., Green, A., Lundin, R., River, P., Uphoff-Wasowski, K., . . . Kubiak, M. A. (2002). Challenging two mental illness stigmas: personal responsibility and dangerousness. *Schizophr Bull, 28*(2), 293-309. doi:10.1093/oxfordjournals.schbul.a006939

Crisp, A. H., Gelder, M. G., Rix, S., Meltzer, H. I., & Rowlands, O. J. (2000). Stigmatisation of people with mental illnesses. *Br J Psychiatry., 177*, 4-7.

Dawson, D. A., Grant, B. F., Stinson, F. S., & Chou, P. S. (2006). Estimating the effect of help-seeking on achieving recovery from alcohol dependence. *Addiction, 101*(6), 824-834. doi:10.1111/j.1360-0443.2006.01433.x

De Silva, M. J., Lee, L., Fuhr, D. C., Rathod, S., Chisholm, D., Schellenberg, J., & Patel, V. (2014). Estimating the coverage of mental health programmes: a systematic review. *Int J Epidemiol, 43*(2), 341-353. doi:10.1093/ije/dyt191

De Silva, M. J., Rathod, S. D., Hanlon, C., Breuer, E., Chisholm, D., Fekadu, A., . . . Patel, V. (2016). Evaluation of district mental healthcare plans: the PRIME consortium methodology. *British Journal of Psychiatry, 208 Suppl 56*, s63-70. doi:10.1192/bjp.bp.114.153858

Demyttenaere, K., Bruffaerts, R., Posada-Villa, J., Gasquet, I., Kovess, V., Lepine, J. P., . . . Morosini, P. (2004). Prevalence, severity, and unmet need for treatment of mental disorders in the World Health Organization World Mental Health Surveys. *JAMA: The Journal of the American Medical Association, 291*(21), 2581.

Dua, T., Barbui, C., Clark, N., Fleischmann, A., Poznyak, V., van Ommeren, M., . . . Saxena, S. (2011). Evidence-based guidelines for mental, neurological, and substance use disorders in low- and middle-income countries: summary of WHO recommendations. *PLoS Med, 8*(11), e1001122. doi:10.1371/journal.pmed.1001122

Eaton, J., McCay, L., Semrau, M., Chatterjee, S., Baingana, F., Araya, R., . . . Saxena, S. (2011). Scale up of services for mental health in low-income and middle-income countries. *Lancet, 378*(9802), 1592-1603. doi:10.1016/s0140-6736(11)60891-x

Edlund, M. J., Unutzer, J., & Curran, G. M. (2006). Perceived need for alcohol, drug, and mental health treatment. *Soc Psychiatry Psychiatr Epidemiol, 41*(6), 480-487. doi:10.1007/s00127-006-0047-1

Egbe, C. O., Brooke-Sumner, C., Kathree, T., Selohilwe, O., Thornicroft, G., & Petersen, I. (2014). Psychiatric stigma and discrimination in South Africa: perspectives from key stakeholders. *BMC Psychiatry, 14*, 191. doi:10.1186/1471-244x-14-191

Evans-Lacko, S., Aguilar-Gaxiola, S., Al-Hamzawi, A., Alonso, J., Benjet, C., Bruffaerts, R., . . . Thornicroft, G. (2018). Socio-economic variations in the mental health treatment gap for people with anxiety, mood, and substance use disorders: results from the WHO World Mental Health (WMH) surveys. *Psychol Med, 48*(9), 1560-1571. doi:10.1017/s0033291717003336

Ferrari, A. J., Charlson, F. J., Norman, R. E., Patten, S. B., Freedman, G., Murray, C. J. L., . . . Whiteford, H. A. (2013). Burden of Depressive Disorders by Country, Sex, Age, and Year: Findings from the Global Burden of Disease Study 2010. *PLoS Med, 10*(11), e1001547. doi:10.1371/journal.pmed.1001547

Gilbody, S., Richards, D., Brealey, S., & Hewitt, C. (2007). Screening for depression in medical settings with the Patient Health Questionnaire (PHQ): a diagnostic meta-analysis. *J Gen Intern Med, 22*(11), 1596-1602. doi:10.1007/s11606-007-0333-y

Goldstone, D., & Bantjes, J. (2017). Mental health care providers' perceptions of the barriers to suicide prevention amongst people with substance use disorders in South Africa: a qualitative study. *Int J Ment Health Syst, 11*, 46. doi:10.1186/s13033-017-0153-3

Graham, A., Hasking, P., Brooker, J., Clarke, D., & Meadows, G. (2017). Mental health service use among those with depression: an exploration using Andersen's Behavioral Model of Health Service Use. *J Affect Disord, 208*, 170-176. doi:10.1016/j.jad.2016.08.074

Gulliver, A., Griffiths, K. M., Christensen, H., & Brewer, J. L. (2012). A systematic review of help-seeking interventions for depression, anxiety and general psychological distress. *BMC Psychiatry, 12*, 81. doi:10.1186/1471-244x-12-81

Gureje, O., Abdulmalik, J., Kola, L., Musa, E., Yasamy, M. T., & Adebayo, K. (2015). Integrating mental health into primary care in Nigeria: report of a demonstration project using the mental health gap action programme intervention guide. *BMC Health Serv Res, 15*, 242. doi:10.1186/s12913-015-0911-3

Gurung, D., Upadhyaya, N., Magar, J., Giri, N. P., Hanlon, C., & Jordans, M. J. D. (2017). Service user and care giver involvement in mental health system strengthening in Nepal: a qualitative study on barriers and facilitating factors. *Int J Ment Health Syst, 11*, 30. doi:10.1186/s13033-017-0139-1

Hofer A. (2004). *The caste hierarchy and the state in Nepal: a study of the Muluki Ain of 1854*. Lalitpur, Nepal: Himal Books, p. xxxvii.p. 238.

James, S., Chisholm, D., Murthy, R. S., Kumar, K. K., Sekar, K., Saeed, K., & Mubbashar, M. (2002). Demand for, access to and use of community mental health care: lessons from a demonstration project in India and Pakistan. *Int J Soc Psychiatry, 48*(3), 163-176. doi:10.1177/002076402128783217

Jennings, K. S., Cheung, J. H., Britt, T. W., Goguen, K. N., Jeffirs, S. M., Peasley, A. L., & Lee, A. C. (2015). How are perceived stigma, self-stigma, and self-reliance related to treatment-seeking? A three-path model. *Psychiatr Rehabil J, 38*(2), 109-116. doi:10.1037/prj0000138

Jordans, M. J. D., Aldridge, L., Luitel, N. P., Baingana, F., & Kohrt, B. A. (2017). Evaluation of outcomes for psychosis and epilepsy treatment delivered by primary health care workers in Nepal: a cohort study. *Int J Ment Health Syst, 11*, 70. doi:10.1186/s13033-017-0177-8

Jordans, M. J. D., Kohrt, B. A., Luitel, N. P., Komproe, I. H., & Lund, C. (2015). Accuracy of proactive case finding for mental disorders by community informants in Nepal. *British Journal of Psychiatry, 207*(6), 501-506. doi:10.1192/bjp.bp.113.141077

Jordans, M. J. D., Kohrt, B. A., Luitel, N. P., Lund, C., & Komproe, I. H. (2017). Proactive community case-finding to facilitate treatment seeking for mental disorders, Nepal. *Bull World Health Organ, 95*(7), 531-536. doi:10.2471/blt.16.189282

Jordans, M. J. D., Luitel, N. P., Garman, E., Kohrt, B. A., Rathod, S. D., Shrestha, P., . . . Patel, V. (2019). Effectiveness of psychological treatments for depression and alcohol use disorder delivered by community-based counsellors: two pragmatic randomised controlled trials within primary healthcare in Nepal. *British Journal of Psychiatry*, 1-9. doi:10.1192/bjp.2018.300

Jordans, M. J. D., Luitel, N. P., Kohrt, B. A., Rathod, S. D., Garman, E. C., De Silva, M., . . . Lund, C. (2019). Community-, facility-, and individual-level outcomes of a district mental healthcare plan in a low-resource setting in Nepal: A population-based evaluation. *PLoS Med, 16*(2), e1002748. doi:10.1371/journal.pmed.1002748

Jordans, M. J. D., Luitel, N. P., Pokhrel, P., & Patel, V. (2016). Development and pilot testing of a mental healthcare plan in Nepal. *British Journal of Psychiatry, 208 Suppl 56*, s21-28. doi:10.1192/bjp.bp.114.153718

Jorm, A. F. (2012). Mental health literacy: empowering the community to take action for better mental health. *Am Psychol, 67*(3), 231-243. doi:10.1037/a0025957

Kagee, A., Tsai, A. C., Lund, C., & Tomlinson, M. (2013). Screening for common mental disorders in low resource settings: reasons for caution and a way forward. *Int Health, 5*(1), 11-14. doi:10.1093/inthealth/ihs004

Kanehara, A., Umeda, M., & Kawakami, N. (2015). Barriers to mental health care in Japan: Results from the World Mental Health Japan Survey. *Psychiatry Clin Neurosci, 69*(9), 523-533. doi:10.1111/pcn.12267

Kapungwe, A., Cooper, S., Mayeya, J., Mwanza, J., Mwape, L., Sikwese, A., & Lund, C. (2011). Attitudes of primary health care providers towards people with mental illness: evidence from two districts in Zambia. *Afr J Psychiatry (Johannesbg), 14*(4), 290-297. doi:http://dx.doi.org/10.4314/ajpsy.v14i4.6

Kapungwe, A., Cooper, S., Mwanza, J., Mwape, L., Sikwese, A., Kakuma, R., . . . Flisher, A. J. (2010). Mental illness--stigma and discrimination in Zambia. *Afr J Psychiatry (Johannesbg), 13*(3), 192-203.

Keynejad, R. C., Dua, T., Barbui, C., & Thornicroft, G. (2018). WHO Mental Health Gap Action Programme (mhGAP) Intervention Guide: a systematic review of evidence from low and middle-income countries. *Evid Based Ment Health, 21*(1), 30-34. doi:10.1136/eb-2017-102750

Kohn, R., Saxena, S., Levav, I., & Saraceno, B. (2004). The treatment gap in mental health care. *Bull World Health Organ, 82*(11), 858-866. doi:/S0042-96862004001100011

Kohrt, B. A., & Harper, I. (2008). Navigating diagnoses: understanding mind-body relations, mental health, and stigma in Nepal. *Cult Med Psychiatry, 32*(4), 462-491. doi:10.1007/s11013-008-9110-6

Kohrt, B. A., Hruschka, D. J., Worthman, C. M., Kunz, R. D., Baldwin, J. L., Upadhaya, N., . . . Nepal, M. K. (2012). Political violence and mental health in Nepal: prospective study. *British Journal of Psychiatry, 201*(4), 268-275. doi:10.1192/bjp.bp.111.096222

Kohrt, B. A., Luitel, N. P., Acharya, P., & Jordans, M. J. (2016). Detection of depression in low resource settings: validation of the Patient Health Questionnaire (PHQ-9) and cultural concepts of distress in Nepal. *BMC Psychiatry, 16*, 58. doi:10.1186/s12888-016-0768-y

Kohrt, B. A., Speckman, R. A., Kunz, R. D., Baldwin, J. L., Upadhaya, N., Acharya, N. R., . . . Worthman, C. M. (2009). Culture in psychiatric epidemiology: using ethnography and multiple mediator models to assess the relationship of caste with depression and anxiety in Nepal. *Ann Hum Biol, 36*(3), 261-280. doi:10.1080/03014460902839194

Kumar, S., Henseler, A., & Haukaas, D. (2009). HIPAA's effects on US healthcare. *Int J Health Care Qual Assur, 22*(2), 183-197. doi:10.1108/09526860910944665

Leventhal, H., Nerenz, D. R., & Steele, D. J. (1984). *Illness representations and coping with health threats.* (Vol. IV). Hillsdale, NJ: Erlbaum.

Lim, S. S., Vos, T., Flaxman, A. D., Danaei, G., Shibuya, K., Adair-Rohani, H., . . . Ezzati, M. (2012). A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. *The Lancet, 380*(9859), 2224-2260. doi:10.1016/S0140-6736(12)61766-8

Lopes, C. S., Hellwig, N., GA, E. S., & Menezes, P. R. (2016). Inequities in access to depression treatment: results of the Brazilian National Health Survey - PNS. *Int J Equity Health, 15*(1), 154. doi:10.1186/s12939-016-0446-1

Lora, A., Kohn, R., Levav, I., McBain, R., Morris, J., & Saxena, S. (2012). Service availability and utilization and treatment gap for schizophrenic disorders: a survey in 50 low- and middle-income countries. *Bull World Health Organ, 90*(1), 47-54, 54a-54b. doi:10.2471/blt.11.089284

Luitel, N. P., Baron, E. C., Kohrt, B. A., Komproe, I. H., & Jordans, M. J. D. (2018). Prevalence and correlates of depression and alcohol use disorder among adults attending primary health care services in Nepal: a cross sectional study. *BMC Health Serv Res, 18*(1), 215. doi:10.1186/s12913-018-3034-9

Luitel, N. P., Jordans, M. J., Sapkota, R. P., Tol, W. A., Kohrt, B. A., Thapa, S. B., . . . Sharma, B. (2013). Conflict and mental health: a cross-sectional epidemiological study in Nepal. *Soc Psychiatry Psychiatr Epidemiol, 48*(2), 183-193. doi:10.1007/s00127-012-0539-0

Luitel, N. P., Jordans, M. J. D., Adhikari, A., Upadhaya, N., Hanlon, C., Lund, C., & Komproe, I. H. (2015). Mental health care in Nepal: current situation and challenges for development of a district mental health care plan. *Confl Health, 9*, 3. doi:10.1186/s13031-014-0030-5

Luitel, N. P., Jordans, M. J. D., Kohrt, B. A., Rathod, S. D., & Komproe, I. H. (2017). Treatment gap and barriers for mental health care: A cross-sectional community survey in Nepal. *PLoS One, 12*(8), e0183223. doi:10.1371/journal.pone.0183223

Lund, C., Tomlinson, M., De Silva, M., Fekadu, A., Shidhaye, R., Jordans, M. J., . . . Patel, V. (2012). PRIME: A Programme to Reduce the Treatment Gap for Mental Disorders in Five Low- and Middle-Income Countries. *PLoS Med, 9*(12), e1001359. doi:10.1371/journal.pmed.1001359

Mascayano, F., Armijo, J. E., & Yang, L. H. (2015). Addressing stigma relating to mental illness in low- and middle-income countries. *Front Psychiatry, 6*, 38. doi:10.3389/fpsyt.2015.00038

Mathias, K., Goicolea, I., Kermode, M., Singh, L., Shidhaye, R., & Sebastian, M. S. (2015). Cross-sectional study of depression and help-seeking in Uttarakhand, North India. *BMJ Open, 5*(11), e008992. doi:10.1136/bmjopen-2015-008992

Maulik, P. K., Devarapalli, S., Kallakuri, S., Tewari, A., Chilappagari, S., Koschorke, M., & Thornicroft, G. (2017). Evaluation of an anti-stigma campaign related to common mental disorders in rural India: a mixed methods approach. *Psychol Med, 47*(3), 565-575. doi:10.1017/s0033291716002804

Mehta, N., Clement, S., Marcus, E., Stona, A. C., Bezborodovs, N., Evans-Lacko, S., . . . Thornicroft, G. (2015). Evidence for effective interventions to reduce mental health-related stigma and discrimination in the medium and long term: systematic review. *British Journal of Psychiatry, 207*(5), 377-384. doi:10.1192/bjp.bp.114.151944

Mobenzi Researcher, I. Cape Town, South Africa: Clyral; Available: http://mobenzi.com/researcher/home

Murphy, A., Chikovani, I., Uchaneishvili, M., Makhashvili, N., & Roberts, B. (2018). Barriers to mental health care utilization among internally displaced persons in the republic of Georgia: a rapid appraisal study. *BMC Health Serv Res, 18*(1), 306. doi:10.1186/s12913-018-3113-y

Mutamba, B. B., van Ginneken, N., Smith Paintain, L., Wandiembe, S., & Schellenberg, D. (2013). Roles and effectiveness of lay community health workers in the prevention of mental, neurological and substance use disorders in low and middle income countries: a systematic review. *BMC Health Serv Res, 13*, 412. doi:10.1186/1472-6963-13-412

Nakku, J. E., Okello, E. S., Kizza, D., Honikman, S., Ssebunnya, J., Ndyanabangi, S., . . . Kigozi, F. (2016). Perinatal mental health care in a rural African district, Uganda: a qualitative study of barriers, facilitators and needs. *BMC Health Serv Res, 16*, 295. doi:10.1186/s12913-016-1547-7

Nalwadda, O., Rathod, S. D., Nakku, J., Lund, C., Prince, M., & Kigozi, F. (2018). Alcohol use in a rural district in Uganda: findings from community-based and facility-based cross-sectional studies. *Int J Ment Health Syst, 12*, 12. doi:10.1186/s13033-018-0191-5

Patel, V. (2009). The future of psychiatry in low- and middle-income countries. *Psychol Med, 39*(11), 1759-1762.

Patel, V., Chisholm, D., Parikh, R., Charlson, F. J., Degenhardt, L., Dua, T., . . . Whiteford, H. (2016). Addressing the burden of mental, neurological, and substance use disorders: key messages from Disease Control Priorities, 3rd edition. *Lancet, 387*(10028), 1672-1685. doi:10.1016/s0140-6736(15)00390-6

Patel, V., Maj, M., Flisher, A. J., De Silva, M. J., Koschorke, M., & Prince, M. (2010). Reducing the treatment gap for mental disorders: a WPA survey. *World Psychiatry, 9*(3), 169-176.

Patel, V., Saxena, S., Lund, C., Thornicroft, G., Baingana, F., Bolton, P., . . . UnUtzer, J. (2018). The Lancet Commission on global mental health and sustainable development. *Lancet, 392*(10157), 1553-1598. doi:10.1016/s0140-6736(18)31612-x

Pescosolido, B. A., & Boyer, C. A. (1999). How do people come to use mental health services? Current knowledge and changing perspectives. A handbook for the study of mental health: Social contexts, theories, and systems. 392-411.

Petersen, I., Marais, D., Abdulmalik, J., Ahuja, S., Alem, A., Chisholm, D., . . . Thornicroft, G. (2017). Strengthening mental health system governance in six low- and middle-income countries in Africa and South Asia: challenges, needs and potential strategies. *Health Policy and Planning, 32*(5), 699-709. doi:10.1093/heapol/czx014

Petersen, I., Ssebunnya, J., Bhana, A., & Baillie, K. (2011). Lessons from case studies of integrating mental health into primary health care in South Africa and Uganda. *Int J Ment Health Syst, 5*, 8. doi:10.1186/1752-4458-5-8

Picco, L., Abdin, E., Pang, S., Vaingankar, J. A., Jeyagurunathan, A., Chong, S. A., & Subramaniam, M. (2018). Association between recognition and help-seeking preferences and stigma towards people with mental illness. *Epidemiol Psychiatr Sci, 27*(1), 84-93. doi:10.1017/s2045796016000998

Pradhan, B., Chappuis, F., Baral, D., Karki, P., Rijal, S., Hadengue, A., & Gache, P. (2012). The alcohol use disorders identification test (AUDIT): validation of a Nepali version for the detection of alcohol use disorders and hazardous drinking in medical settings. *Subst Abuse Treat Prev Policy, 7*, 42. doi:10.1186/1747-597x-7-42

Pradhan, R., & Shrestha, A. (2005). *Nepal Gender and Social Exclusion Assessment. (Manuscript). Kathmandu, Nepal*. Kathmandu, Nepal: World Bank/DFID.

Preville, M., Mechakra Tahiri, S. D., Vasiliadis, H. M., Quesnel, L., Gontijo-Guerra, S., Lamoureux-Lamarche, C., & Berbiche, D. (2015). Association between perceived social stigma against mental disorders and use of health services for psychological distress symptoms in the older adult population: validity of the STIG scale. *Aging Ment Health, 19*(5), 464-474. doi:10.1080/13607863.2014.944092

Rathod, S. D., De Silva, M. J., Ssebunnya, J., Breuer, E., Murhar, V., Luitel, N. P., . . . Lund, C. (2016). Treatment Contact Coverage for Probable Depressive and Probable Alcohol Use Disorders in Four Low- and Middle-Income Country Districts: The PRIME Cross-Sectional Community Surveys. *PLoS One, 11*(9), e0162038. doi:10.1371/journal.pone.0162038

Rickwood, D. J., & Braithwaite, V. A. (1994). Social-psychological factors affecting help-seeking for emotional problems. *Soc Sci Med, 39*(4), 563-572. doi:10.1016/0277-9536(94)90099-x

Rickwood, D. J., Deane, F. P., & Wilson, C. J. (2007). When and how do young people seek professional help for mental health problems? *Med J Aust, 187*(S7), S35-39.

Rickwood, D. J., & Thomas, K. (2012). Conceptual measurement framework for help-seeking for mental health problems. *Psychol Res Behav Manag, 5*, 173 - 183.

Roberts, T., Miguel Esponda, G., Krupchanka, D., Shidhaye, R., Patel, V., & Rathod, S. (2018). Factors associated with health service utilisation for common mental disorders: a systematic review. *BMC Psychiatry, 18*(1), 262. doi:10.1186/s12888-018-1837-1

Rosenstock, I. M. (1966). Why people use health services. *Milbank Mem Fund Q, 44*(3), Suppl:94-127.

Sagar, R., Pattanayak, R. D., Chandrasekaran, R., Chaudhury, P. K., Deswal, B. S., Lenin Singh, R. K., . . . Chatterji, S. (2017). Twelve-month prevalence and treatment gap for common mental disorders: Findings from a large-scale epidemiological survey in India. *Indian J Psychiatry, 59*(1), 46-55. doi:10.4103/psychiatry.IndianJPsychiatry_333_16

Sapkota, N., Shakya, D. R., Adhikari, B. R., Pandey, A. K., & Shyangwa, P. M. (2016). Magico-religious Beliefs in Schizophrenia: A study from Eastern part of Nepal *Journal of College of Medical Sciences-Nepal, 12*(4), 150 -159.

Saraceno, B., van Ommeren, M., Batniji, R., Cohen, A., Gureje, O., Mahoney, J., . . . Underhill, C. (2007). Barriers to improvement of mental health services in low-income and middle-income countries. *Lancet, 370*(9593), 1164-1174. doi:10.1016/s0140-6736(07)61263-x

Sathyanath, S., Mendonsa, R. D., Thattil, A. M., Chandran, V. M., & Karkal, R. S. (2016). Socially restrictive attitudes towards people with mental illness among the non-psychiatry medical professionals in a university teaching hospital in South India. *Int J Soc Psychiatry, 62*(3), 221-226. doi:10.1177/0020764015623971

Saunders, J. B., Aasland, O. G., Amundsen, A., & Grant, M. (1993). Alcohol consumption and related problems among primary health care patients: WHO collaborative project on early detection of persons with harmful alcohol consumption--I. *Addiction, 88*(3), 349-362.

Saxena, S., Thornicroft, G., Knapp, M., & Whiteford, H. (2007). Resources for mental health: scarcity, inequity, and inefficiency. *Lancet, 370*(9590), 878-889. doi:10.1016/s0140-6736(07)61239-2

Schnyder, N., Panczak, R., Groth, N., & Schultze-Lutter, F. (2017). Association between mental health-related stigma and active help-seeking: systematic review and meta-analysis. *British Journal of Psychiatry, 210*(4), 261-268. doi:10.1192/bjp.bp.116.189464

Schomerus, G., Schwahn, C., Holzinger, A., Corrigan, P. W., Grabe, H. J., Carta, M. G., & Angermeyer, M. C. (2012). Evolution of public attitudes about mental illness: a systematic review and meta-analysis. *Acta Psychiatr Scand, 125*(6), 440-452. doi:10.1111/j.1600-0447.2012.01826.x

Schomerus, G., Schwahn, C., Holzinger, A., Corrigan, P. W., Grabe, H. J., Carta, M. G., & Angermeyer, M. C. (2012). Evolution of public attitudes about mental illness: a systematic review and meta-analysis. *Acta Psychiatr Scand, 125*(6), 440 - 452.

Seedat, S., Williams, D. R., Herman, A. A., Moomal, H., Williams, S. L., Jackson, P. B., . . . Stein, D. J. (2009). Mental health service use among South Africans for mood, anxiety and substance use disorders. *S Afr Med J, 99*(5 Pt 2), 346-352.

Semrau, M., Evans-Lacko, S., Koschorke, M., Ashenafi, L., & Thornicroft, G. (2015). Stigma and discrimination related to mental illness in low- and middle-income countries. *Epidemiol Psychiatr Sci, 24*(5), 382-394. doi:10.1017/s2045796015000359

Sessions, K. L., Wheeler, L., Shah, A., Farrell, D., Agaba, E., Kuule, Y., & Merry, S. P. (2017). Mental illness in Bwindi, Uganda: Understanding stakeholder perceptions of benefits and barriers to developing a community-based mental health programme. *Afr J Prim Health Care Fam Med, 9*(1), e1-e7. doi:10.4102/phcfm.v9i1.1462

Shen, Y. C., Zhang, M. Y., Huang, Y. Q., He, Y. L., Liu, Z. R., Cheng, H., . . . Kessler, R. C. (2006). Twelve-month prevalence, severity, and unmet need for treatment of mental disorders in metropolitan China. *Psychol Med, 36*(2), 257-267. doi:10.1017/s0033291705006367

Shidhaye, R., Baron, E., Murhar, V., Rathod, S., Khan, A., Singh, A., . . . Patel, V. (2019). Community, facility and individual level impact of integrating mental health screening and treatment into the primary healthcare system in Sehore district, Madhya Pradesh, India. *BMJ Glob Health, 4*(3), e001344. doi:10.1136/bmjgh-2018-001344

Shidhaye, R., & Kermode, M. (2013). Stigma and discrimination as a barrier to mental health service utilization in India. *Int Health, 5*(1), 6-8. doi:10.1093/inthealth/ihs011

Shidhaye, R., Murhar, V., Gangale, S., Aldridge, L., Shastri, R., Parikh, R., . . . Patel, V. (2017). The effect of VISHRAM, a grass-roots community-based mental health programme, on the treatment gap for depression in rural communities in India: a population-based study. *Lancet Psychiatry, 4*(2), 128-135. doi:10.1016/s2215-0366(16)30424-2

Siriwardhana, C., Adikari, A., Jayaweera, K., Abeyrathna, B., & Sumathipala, A. (2016). Integrating mental health into primary care for post-conflict populations: a pilot study. *Int J Ment Health Syst, 10*, 12. doi:10.1186/s13033-016-0046-x

Ssebunnya, J., Kigozi, F., Lund, C., Kizza, D., & Okello, E. (2009). Stakeholder perceptions of mental health stigma and poverty in Uganda. *BMC Int Health Hum Rights, 9*, 5. doi:10.1186/1472-698x-9-5

Statistics, C. B. o. (2011). *National Population and Housing Census 2011 (Village Development Committee/Municipality): Chitwan [Internet]*. Kathmadu, Nepal: Government of Nepal; 2014 Mar. ReportNo.: NPHC2011.

Subba, P., Luitel, N. P., Kohrt, B. A., & Jordans, M. J. D. (2017). Improving detection of mental health problems in community settings in Nepal: development and pilot testing of the community informant detection tool. *Confl Health, 11*, 28. doi:10.1186/s13031-017-0132-y

Tanahashi, T. (1978). Health service coverage and its evaluation. *Bull World Health Organ, 56*(2), 295.

ten Have, M., de Graaf, R., Ormel, J., Vilagut, G., Kovess, V., & Alonso, J. (2010). Are attitudes towards mental health help-seeking associated with service use? Results from the European Study of Epidemiology of Mental Disorders. *Soc Psychiatry Psychiatr Epidemiol, 45*(2), 153-163. doi:10.1007/s00127-009-0050-4

Thornicroft, G., Alem, A., Antunes Dos Santos, R., Barley, E., Drake, R. E., Gregorio, G., . . . Wondimagegn, D. (2010). WPA guidance on steps, obstacles and mistakes to avoid in the implementation of community mental health care. *World Psychiatry, 9*(2), 67-77.

Thornicroft, G., Chatterji, S., Evans-Lacko, S., Gruber, M., Sampson, N., Aguilar-Gaxiola, S., . . . Kessler, R. C. (2017). Undertreatment of people with major depressive disorder in 21 countries. *British Journal of Psychiatry, 210*(2), 119-124. doi:10.1192/bjp.bp.116.188078

Thornicroft, G., Mehta, N., Clement, S., Evans-Lacko, S., Doherty, M., Rose, D., . . . Henderson, C. (2016). Evidence for effective interventions to reduce mental-health-related stigma and discrimination. *Lancet, 387*(10023), 1123-1132. doi:10.1016/s0140-6736(15)00298-6

Tol, W. A., Kohrt, B. A., Jordans, M. J., Thapa, S. B., Pettigrew, J., Upadhaya, N., & de Jong, J. T. (2010). Political violence and mental health: a multi-disciplinary review of the literature on Nepal. *Soc Sci Med, 70*(1), 35-44. doi:10.1016/j.socscimed.2009.09.037

Upadhaya, N., Luitel, N. P., Koirala, S., Adhikari, R. P., Gurung, D., Shrestha, P., . . . Jordans, M. J. D. (2014). The role of mental health and psychosocial support in nongovernmental organisations: reflections from post conflict Nepal. *Intervention, 12*(Supplement), 113-128.

Upadhaya, N., Regmi, U., Gurung, D., Luitel, N. P., Petersen, I., Jordans, M. J. D., & Komproe, I. H. (Under Review). Mental health and psychosocial support services in primary health care in Nepal: Perceived facilitating factors, barriers and strategies for improvement *BMC Psychiatry*.

van Beljouw, I., Verhaak, P., Prins, M., Cuijpers, P., Penninx, B., & Bensing, J. (2010). Reasons and determinants for not receiving treatment for common mental disorders. *Psychiatr Serv, 61*(3), 250-257. doi:10.1176/appi.ps.61.3.25010.1176/ps.2010.61.3.250

van Ommeren, M., Sharma, B., Thapa, S., Makaju, R., Prasain, D., Bhattarai, R., & de Jong, J. (1999). Preparing Instruments for Transcultural Research: Use of the Translation Monitoring Form with Nepali-Speaking Bhutanese Refugees. *Transcultural Psychiatry, 36*(3), 285-301. doi:10.1177/136346159903600304

Vos, T., Flaxman, A. D., Naghavi, M., Lozano, R., Michaud, C., Ezzati, M., . . . Murray, C. J. L. (2012). Years lived with disability (YLDs) for 1160 sequelae of 289 diseases and injuries 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. *The Lancet, 380*(9859), 2163-2196. doi:10.1016/S0140-6736(12)61729-2

Wang, P. S., Aguilar-Gaxiola, S., Alonso, J., Angermeyer, M. C., Borges, G., Bromet, E. J., . . . Wells, J. E. (2007). Use of mental health services for anxiety, mood, and substance disorders in 17 countries in the WHO world mental health surveys. *Lancet, 370*(9590), 841-850. doi:10.1016/s0140-6736(07)61414-7

Whiteford, H. A., Ferrari, A. J., Degenhardt, L., Feigin, V., & Vos, T. (2015). The global burden of mental, neurological and substance use disorders: an analysis from the Global Burden of Disease Study 2010. *PLoS One, 10*(2), e0116820. doi:10.1371/journal.pone.0116820

WHO. (2004). *Disease and Injury Regional Estimates for 2004*. Geneva, Switzerland: World Health Organization.

WHO. (2008). *mhGAP: Mental Health Gap Action Programme: Scaling Up Care for Mental, Neurological and Substance Use Disorders*. Geneva: World Health Organization.

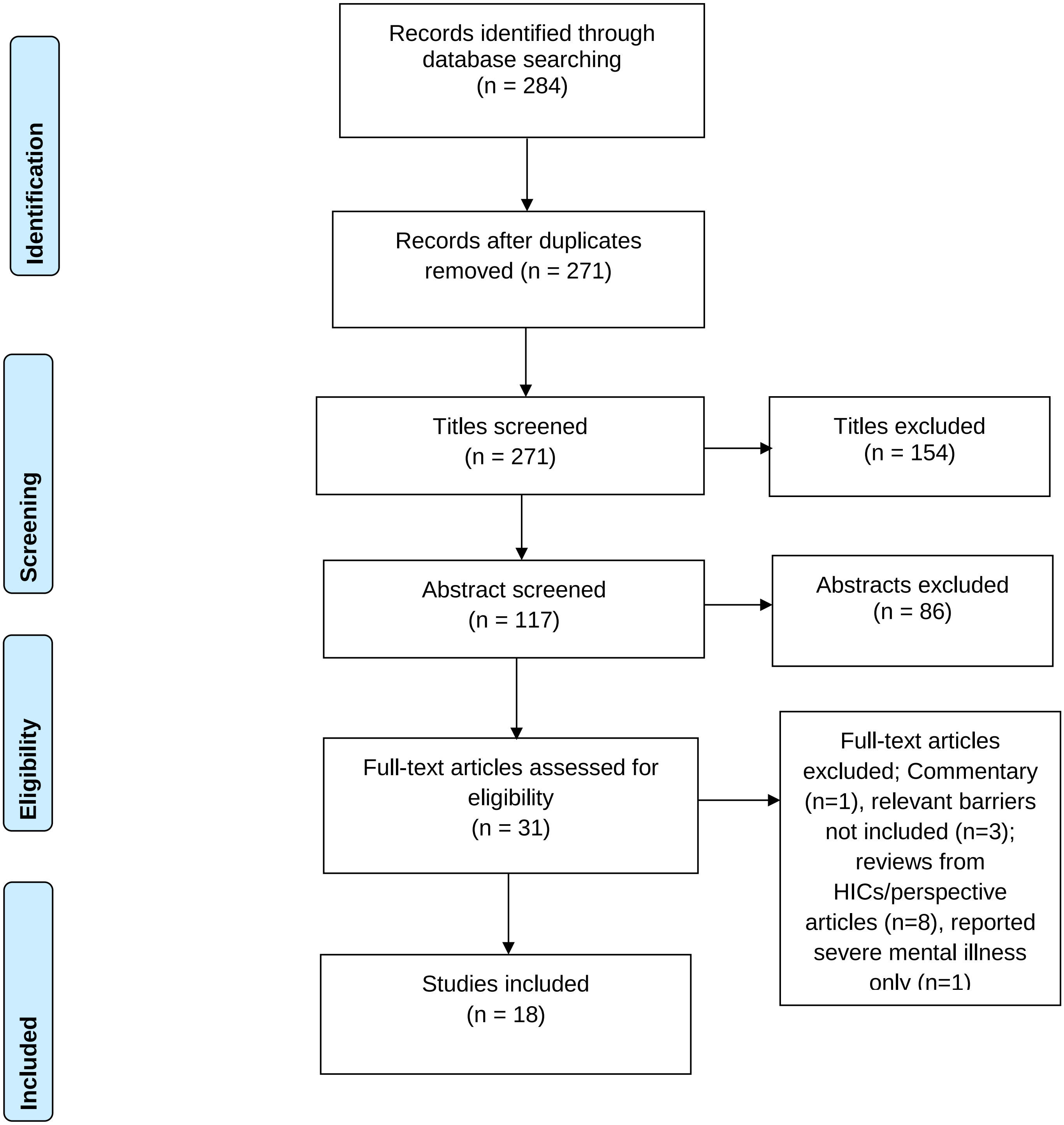
WHO. (2010). mhGAP Intervention Guide for Mental, Neurological and Substance Use Disorders in Non-Specialized Health Settings: Mental Health Gap Action Programme (mhGAP). Geneva: World Health Organization.

WHO & Wonca. (2008). *Integrating mental health into primary care: A global perspective*. http://www.who.int/mental_health/policy/Integratingmhintoprimarycare2008_lastversion.pdf.

World Bank. (2017). *World Development Indicators 2017*. Washington, DC: World Bank.

7. APPENDICES

Appendix I: PRISMA flow diagram of identification of literature on barriers to mental health care



Appendix II: Community survey instruments

Section one: socio-demographic information

1	How old are you?	………………… years	
2	What is your gender identification?	Male	0
		Female	1
		Third gender	2
3	What is the highest level of education you have completed?	No schooling or illiterate	0
		Informal education/literate	1
		Primary school	2
		Secondary school	3
		College/University	4
4	What is your occupation (generally)?	Agriculture	1
		Service	2
		Business	3
		Labor/Porter	4
		Cottage industry	5
		Unemployed	6
		Student	7
		Other [specify]	77
5.	What is your caste?	Brahmin/Chhetri	1
		Tharu	2
		Magar	3
		Gurung	4

		Newar	5
		Tamang	6
		Other [specify]	77
6.	What is your religious identity?	Hindu	1
		Buddhist	2
		Muslim	3
		Christian	4
		Others [specify]	77
7.	What is your marital status?	Unmarried	1
		Married	2
		Widow/Widower	3
		Divorced	4
		Separated	5
8	How many people live in this household?	……………..	
9	Was your/family income in this period (in payment, harvest or otherwise) sufficient to sustain yourselves?	Not at all (Less than a month)	1
		A little (1-3 months	2
		A quite bit (3-6 months)	3
		Very much (6-9 months)	4
		Always (9-12 months or more)	5
		Can't remember	888

<u>Section two: Alcohol use disorder identification test (AUDIT)</u>

Now I am going to ask you some questions about your use of tobacco and alcoholic beverages. If you have ever used any tobacco or alcoholic beverages, please tell us.

For Brahmin and Chhetri: We know that our tradition and culture does not allow certain caste/ethnic groups to drink alcohol, however, these days many people from those groups have started drinking alcohol. As a Brahmin/Chhetri, we may drink alcohol during some special occasions like parties or festivals. Many of our Brahmin/Chhetri friends also drink alcohol. Therefore, if you drink alcohol, please share with us as honestly as you can. The information will not be used for other purposes apart from our study.

For women: We know that traditionally women are not expected to drink alcohol; however, these days many women do drink alcohol. Therefore, if you drink alcohol sometimes, please share with us as honestly as you can. The information will not be used for other purposes apart from our study.

Have you ever had a drink containing alcohol?
No…………..1
Yes………….2

Now I am going to ask you some questions about your use of alcoholic beverages during the past 12 months.

	How often do you have a drink containing alcohol?	Never [→ go to B9]	0
		Monthly or less	1
		2-4 times a month	2
		2-3 times a week	3
		4 or more times a week	4
	How many drinks containing alcohol do you have on a typical day when you are drinking?	1-2 peg	0
		3-4 peg	1
		5-6 peg	2
		7-9 peg	3
		10 peg or more	4

	How often do you have six peg rice wine or more than 3 glasses of alcohol or more than 2 bottles of beer or one quarter (a small bottle) of vodka rum in one occasion?	Never	0
		Less than monthly	1
		Monthly	2
		Weekly	3
		Daily or almost daily	4
	[If Question B2 AND Question B3 are both scored 0 → go to B9.]		
	How often during the last year have you found that you were not able to stop drinking once you had started?	Never	0
		Less than monthly	1
		Monthly	2
		Weekly	3
		Daily or almost daily	4
	How often during the last year have you failed to do what was normally expected from you because of drinking?	Never	0
		Less than monthly	1
		Monthly	2
		Weekly	3
		Daily or almost daily	4
	How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	0
		Less than monthly	1
		Monthly	2
		Weekly	3
		Daily or almost daily	4
	How often during the last year have you had a feeling of guilt or remorse after	Never	0
		Less than monthly	1

	drinking?	Monthly	2
		Weekly	3
		Daily or almost daily	4
	How often during the last year have you been unable to remember what happened the night before because you had been drinking?	Never	0
		Less than monthly	1
		Monthly	2
		Weekly	3
		Daily or almost daily	4
	Have you or someone else been injured as a result of your drinking?	No	0
		Yes, but not in the last year	2
		Yes, during the last year	4
	Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down?	No	0
		Yes, but not in the last year	2
		Yes, during the last year	4

Section three: Patients health questionnaire (PHQ9)

We just talked about your alcohol use. Now I am going to ask you if you had been experiencing sadness, emptiness in heart or unable to enjoy things you used to find interesting earlier from the last two weeks.

	Little interest or pleasure in doing things	Not at all	0
		Several days	1
		More than half the days	2
		Nearly every day	3

	Feeling down, depressed, or hopeless	Not at all	0
		Several days	1
		More than half the days	2
		Nearly every day	3
	Trouble falling/staying asleep, sleeping too much.	Not at all	0
		Several days	1
		More than half the days	2
		Nearly every day	3
	Feeling tired or having little energy	Not at all	0
		Several days	1
		More than half the days	2
		Nearly every day	3
	Poor appetite or overeating	Not at all	0
		Several days	1
		More than half the days	2
		Nearly every day	3
	Feeling bad about yourself – or that you are a failure or have let yourself or your family down.	Not at all	0
		Several days	1
		More than half the days	2
		Nearly every day	3
	Trouble concentrating on things, such as reading the newspaper or watching television.	Not at all	0
		Several days	1
		More than half the days	2

		Nearly every day	3
	Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual.	Not at all	0
		Several days	1
		More than half the days	2
		Nearly every day	3
	Thoughts that you would be better off dead or of hurting yourself in some way.	Not at all	0
		Several days	1
		More than half the days	2
		Nearly every day	3

Section four: Barriers to Care Evaluation (BACE) Scale

In this section we will discuss about the issues that can stop, delay or discourage people from getting mental health care. Below you can see a list of things which can stop, delay or discourage people from getting mental health care for a mental health problem, or continuing to get help. By mental health care we mean care from such staff as a GP (family doctor), community mental health team (e.g. care coordinator, mental health nurse or mental health social worker), psychiatrist, counselor, psychologist or psychotherapist. Currently do any of these issues stop, delay or discourage you for getting mental health care.

In your opinion, have any of these issues ever stopped, delayed or discouraged you from getting, or continuing with, health care for a mental health problem? If yes, then please tell us.

		Not at all	A little	Quite a lot	A lot	Not applicable
	Being unsure where to go to get mental health care	0	1	2	3	
	Wanting to solve the problem on my own	0	1	2	3	

	Concern that I might be seen as weak for having a mental health problem	0	1	2	3	
	Fear of being put in hospital against my will	0	1	2	3	
	Concern that it might harm my chances when applying for jobs	0	1	2	3	66
	Problems with transport or travelling to appointments	0	1	2	3	
	Thinking the problem would get better by itself	0	1	2	3	
	Concern about what my family might think, say, do or feel	0	1	2	3	
	Feeing embarrassed or ashamed	0	1	2	3	
	Preferring to get alternative forms of care (e.g. traditional / religious healing or alternative / complementary therapies)	0	1	2	3	
	Not being able to afford the financial costs involved	0	1	2	3	
	Concern that I might be seen as ‘crazy’	0	1	2	3	
	Thinking that mental health care probably would not help	0	1	2	3	
	Concern that I might be seen as a bad parent	0	1	2	3	66
	Mental health care from my own ethnic or cultural group not being available	0	1	2	3	
	Being too unwell to ask for help	0	1	2	3	
	Concern that people I know might find out	0	1	2	3	

	Dislike of talking about my feelings, emotions or thoughts	0	1	2	3	
	Concern that people might not take me seriously if they found out I was having mental health care	0	1	2	3	
	Concerns about the treatments available (e.g. medication side effects)	0	1	2	3	
	Not wanting a mental health problem to be on my medical records	0	1	2	3	
	Having had previous bad experiences with mental health staff	0	1	2	3	
	Preferring to get help from family or friends	0	1	2	3	
	Concern that my children may be taken into care or that I may lose access or custody without my agreement	0	1	2	3	66
	Thinking I did not have a problem	0	1	2	3	
	Concern about what my friends might think, say or do	0	1	2	3	
	Difficulty taking time off work	0	1	2	3	
	Concern about what people at work might think, say or do	0	1	2	3	66
	Having problems with childcare while I receive mental health care	0	1	2	3	66
	Having no one who could help me get mental health care	0	1	2	3	

Appendix III: Informed consent (English)

Namaste! My name is……………………… We have come from Transcultural Psychosocial Organization (TPO)-Nepal based in Kathmandu. TPO Nepal works in the field of psychosocial and mental health of people affected by conflict, emergencies and other stressful life events. From the last six years, our organization has been providing psychosocial support to the people affected by conflict, natural disasters, human trafficking, domestic violence and HIV/AIDS. In addition, TPO Nepal has also been conducting several researches on psychosocial and mental health.

Currently, TPO Nepal is implementing **PR**ogramme for **I**mproving **M**ental health Car**E** (PRIME) project in Chitwan district of Nepal, in collaboration with the Dutch NGO HealthNet TPO, and with support of Ministry of Health. The objective of PRIME is to generate world-class research evidence on the implementation and scaling up of treatment programs for priority mental disorders in primary and maternal health care contexts in low resource settings. PRIME is a consortium of research institutions and Ministries of Health in five countries in Asia and Africa (Ethiopia, India, Nepal, South Africa & Uganda), with partners in the UK and the World Health Organization (WHO). PRIME is supported by the UK government's Department for International Development (DFID), and is a six year program which was launched in May 2011.

Under this program, we are going to conduct a study in different Village Development Committees (VDCs) of Chitwan district in order to develop a strategy for providing effective mental health service through existing health care system. Your household has been also selected randomly for the study; therefore, we are here to discuss with you about the study.

Aims: The overall aim of this study is to understand the experiences of people with mental health problems about availability and acceptability of mental health services in Chitwan district, and barriers for seeking those services. Based on the results of the study we want to develop a strategy to provide effective mental services through the existing health care system.

Voluntary Participation: Your participation in the study completely relies on your choice. During the interview, if you feel uncomfortable or have difficulty answering any question then, you can stop the interview at any time you wish and give reason for your action, so that we too can learn from that for other interviews.

Confidentiality: We would like to assure you that your answer will be kept confidential. Your name and other things that describe you (your town name, your office name, any other persons' names you mentioned) will not appear when we discuss the interviews with others or publish a summary of the interviews.

Personal risk: We will discuss about mental health problems during the interview. If you feel uncomfortable or difficulty at any time during the interview, you can stop the interview. Similarly, don't be hesitant to ask questions, if you have any. After the interview, if you have any problem please let us know so that we can provide you psychosocial support from a professional psychosocial counselor.

Benefits: You may not benefit directly from this interview. This interview is designed to learn experiences of people with mental health problems to receive mental health services, barriers for treatment and its result will be used to improve mental health services in future.

Ethic: It has been internationally recognized that any study or research should not pose any harm to the respondent in any way. We would like to assure you that we will abide by this value during our study.

For further information: If you have any other questions or more information that you would like to share or know about mental health problems, you can contact our office in the address provided below.

Kathmandu Office
Nagendra Prasad Luitel (Project coordinator)
TPO Nepal
Baluwatar, Kathmandu
Contact no.: 01-4431717, 01-4437124

TPO- Chitwan
TPO Nepal
Bharatpur-10, Chitwan
056-523725

Are you ready to participate?
Yes………………………..1
No………………………..2

If yes

______________________ ______________________ ______________________
Name of person consenting Signature Date

Appendix IV: Informed consent (Nepali)

परिचय :- नमस्कार मेरो नाम ....हो । हामी टि. पी. ओ.-नेपाल भन्ने संस्थाबाट आएका हौं । टि. पी. ओ. नेपाल भनेको बहुसास्कृतिक मनोसामाजिक संस्था हो । यस संस्थाले बिगत केहि बर्षदेखि नेपालमा मानसिक तथा मनोसामाजिक स्वास्थ्यको क्षेत्रमा काम गर्दै आएको छ । यस संस्थाले शरणार्थी, द्वन्द्व, आपत्कालिन अवस्था, लैङ्गिक विभेदमा आधारित हिंसा र एच. आई. भि/एड्स जस्ता समस्याहरुबाट प्रभावित तथा जोखिममा परेका व्यक्तिहरुको मनोसामाजिक तथा मानसिक स्वास्थ्यलाई सुधार गर्नको लागि विभिन्न किसिमको अध्ययन, अनुसन्धान, क्षमता अभिवृद्धि साथसाथै मानसिक तथा मनोसामाजिक सहयोग गर्ने गर्दछ ।

हाल यस संस्थाले नेपाल सरकार, स्वास्थ्य तथा जनसंख्या मन्त्रालयको सहयोग र नेदरल्यान्ड स्थित **हेल्थ नेट टि. पी. ओ.** को सहकार्यमा PRogram for Improving Mental health carE (PRIME) कार्यक्रम बिगत दुई बर्षदेखि चितवन जिल्लामा सञ्चालन गर्दै आई रहेको छ । यस कार्यक्रमको मुख्य उद्देश्य भनेको स्वास्थ्य चौकी, उप–स्वास्थ्य चौकी तथा प्राथमिक स्वास्थ्य सेवा केन्द्रहरुमा मानसिक स्वास्थ्यलाई समावेश गरी मानसिक स्वास्थ्य सेवा उपलब्ध गराउनु र त्यसलाई कसरी अझ प्रभावकारी बनाउन वा सुधार गर्न सकिन्छ भनेर विभिन्न अनुसन्धानहरु गरी तथ्य पत्ता लगाई सेवालाई सुधार गर्दै लैजानु हो ।

यस अर्न्तगत अहिले हामी चितवन जिल्लाका विभिन्न गा.वि.स हरुमा मानसिक स्वास्थ्यको अवस्था सम्बन्धि अध्ययन अनुसन्धान गर्न गई रहेका छौं । यस सर्वेक्षणको लागी तपाईको घर पनि छनौटमा परेको हुनाले हामी यहा आएका हौं । यस अध्ययनमा सहभागी हुनको लागी हामी तपाईको लगभग १ घण्टा समय लिने छौं।

उद्देश्यः-यस अध्ययनको मुख्य उद्देश्य भनेको मानसिक स्वास्थ्य समस्या भएका व्यक्तिहरुको उपचारको पहुाच, उपचार लिनका बाधाहरु र हाल उपलब्ध स्वास्थ्य सेवाहरुको बारेमा जानकारीहरु संकलन गरी आएका जानकारीहरुलाई मानसिक स्वास्थ्य सेवा संचालन गर्न र सेवालाई अझ प्रभावकारी बनाउन प्रयोग गर्नु हो ।

स्वेच्छिक सहभागिता :-यसमा तपाईको सहभागीता तपाईको स्वेच्छामा हुनेछ । यदि कुराकानीको क्रममा तपाईलाई कुनै अप्ठ्यारो भएको महसुस भएमा वा कुनै प्रश्नको उत्तर दिन नचाहेमा हामीलाई जानकारी गराउनु होला तर तपाईले हामीसाग कुराकानी गर्नु भएको खण्डमा हामीलाई धेरै सहयोग पुग्नेछ,आशा छ तपाईले सहयोग गर्नु हुनेछ ।

गोपनियता :- तपाई र हामी बिच भएको कुराकानीहरु गोप्य रहनेछ । यी कुराकानी कुनै पत्र-पत्रिका वा विद्युतिय संञ्चार माध्यममा प्रसारित हुने छैन भन्ने कुरामा विश्वस्त गराउन चाहन्छु ।

जोखीम :- हामी यस अध्ययनको दौरानमा मन तथा भावनासाग सम्वन्धीत कुराकानी गर्नेछौं । कुराकानीको दौरानमा तपाईलाई मनमा कुनै समस्या वा अप्ठ्यारो महसुस भएको खण्डमा तपाई कुनै पनि बेलामा कुराकानी रोक्न सक्नु हुनेछ । कुराकानिका दौरानमा यस संग सम्बधित कुनै प्रश्न सोध्न मन लागेमा बिना हिचकिचाहट सोध्न सक्नुहुनेछ । यदि तपाईलाई कुराकानीको दौरानमा वा सकिसकेपछी पनि केही नरमाईलो महशुस भएमा हामीलाई थाहा दिनु होला हामी यहा हुनुभएका मनोबिमर्शकर्ताको सहयोग उपलब्ध गराउनेछौं ।

फाइदा :- यस सर्वेक्षणमा समावेश भए बापत् तपाईलाई व्यक्तिगत रूपमा फाइदा नपुग्न पनि सक्छ तर यसबाट आएको जानकारीले हामीलाई मानसिक स्वास्थ्य सेवा संचालन गर्न र यसलाई अझ प्रभावकारी बनाउन सहयोग पुग्छ भन्ने विश्वास लिएका छौं ।

अनुमति र मान्यताहरु :- अध्ययन र अनुसन्धानका कारणले कुनै पनि सहभागिलाई र अनुसन्धान गर्ने ब्यक्तिलाई हानी पुग्नु हुदैन भन्ने अर्न्तराष्ट्रिय अभिलेखमा छ । त्यसैले यस अध्ययन र अनुसन्धानका क्रममा हामी ति कुराहरु प्रति प्रतिबद्ध रहेको जानकारी गराउदछौं ।

अन्य जानकारीको लागि :- यदि तपाईलाई यस अनुसन्धानको बारेमा केहि सोध्न मन लागेमा वा हाम्रो संस्थाको बारेमा अन्य केही जान्न मन लागेमा तपाई कृपया हाम्रो संस्थामा सम्पर्क राख्न सक्नुहुनेछ ।

नगेन्द्र प्रसाद लुइटेल (अनुशन्धान संयोजक)
टि. पी. ओ.-नेपाल
फोन नं ०१–४४३१७१७, ०१–४४३७१२४
बालुवाटार काठमाण्डौ

चितवन अफिस
टि. पी. ओ.-नेपाल
०५६ –५२३७२५
भरतपुर–१०, चितवन

तपाई यस सर्वेक्षणमा सहभागी हुन तयार हुनुहुन्छ ?

छु १
छैन २

यदि तयार हुनुहुन्छ भने,

....

नाम हस्ताक्षर मिति

यदि उत्तरदाताले सहभागी हुन नमानेमा मात्र सोध्ने

तपाई यस अध्ययनमा किन सहभागि हुन नचाहनु भएको होला ?

....

Appendix V: Copy of ethical approvals

UNIVERSITY OF CAPE TOWN
Faculty of Health Sciences
Human Research Ethics Committee

Room E53-46 Old Main Building
Groote Schuur Hospital
Observatory 7925
Telephone [021] 406 6626
Email: [illegible]
Website: www.health.uct.ac.za/fhs/research/humanethics/forms

13 September 2018

HREC REF: 570/2018

Prof Crick Lund
Alan Flisher Centre for Public Mental Health
Department of Psychiatry & Mental Health
Children's Centre, SCAH
46 Sawkins Rd, Rondebosch

Dear Prof Lund

PROJECT TITLE: TREATMENT COVERAGE, BARRIERS TO CARE AND FACTORS ASSOCIATED WITH HELP-SEEKING BEHAVIOUR OF ADULTS WITH DEPRESSION AND ALCOHOL USE DISORDER IN NEPAL (Masters Candidate - NP Luitel) SUB-STUDY LINKED TO 412/2011

Thank you for submitting your study to the Faculty of Health Sciences Human Research Ethics Committee.

It is a pleasure to inform you that the HREC has **formally approved** the above-mentioned study.

Approval is granted for one year until the 30 September 2019.

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.
(Forms can be found on our website: www.health.uct.ac.za/fhs/research/humanethics/forms)

Please quote the HREC REF in all your correspondence.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please note that for all studies approved by the HREC, the principal investigator **must** obtain appropriate institutional approval, where necessary, before the research may occur.

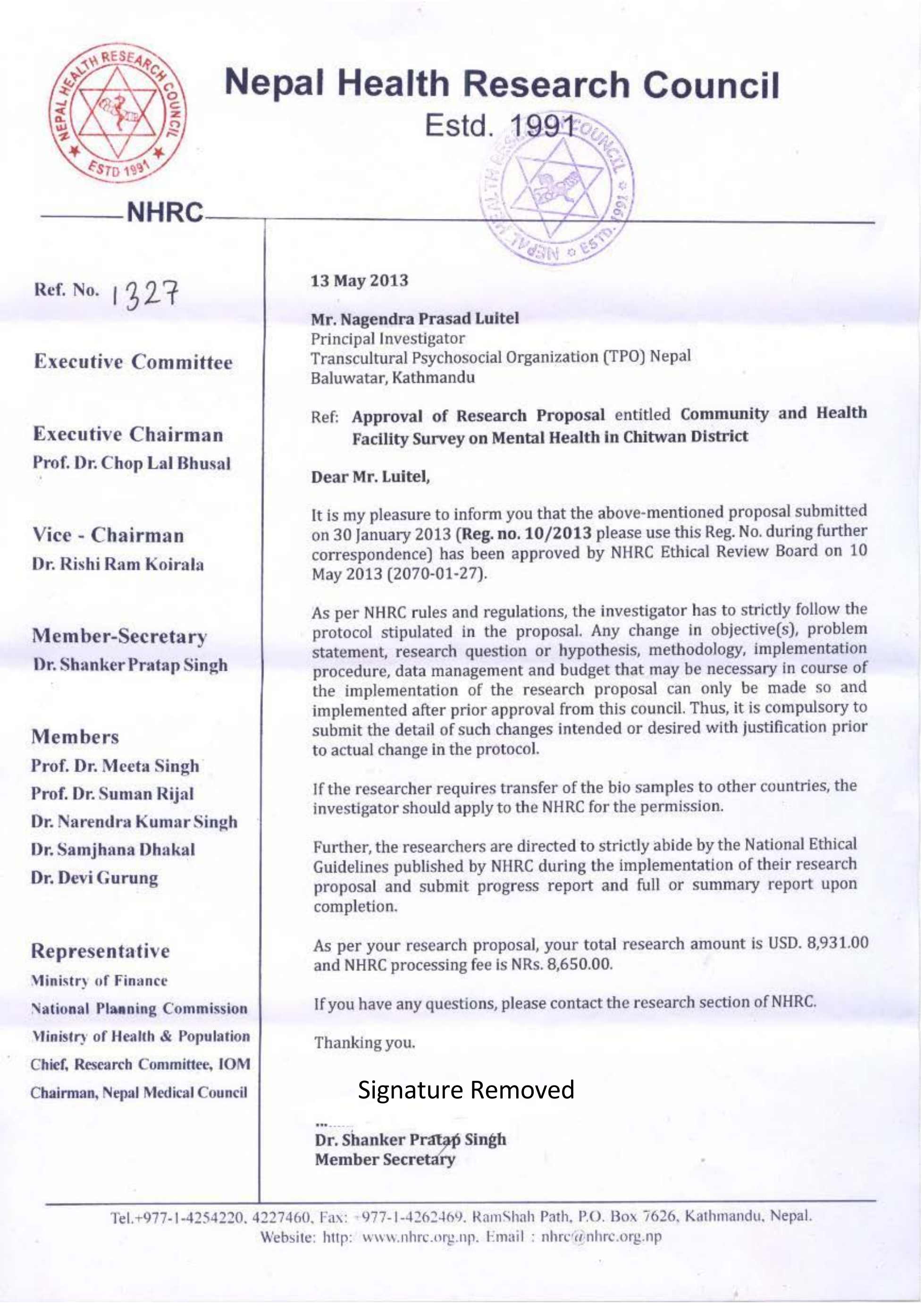
The HREC acknowledge that the student, Nagendra Prasad Luitel will also be involved in this study.

Yours sincerely

Signature Removed

PROFESSOR M BLOCKMAN
CHAIRPERSON, FHS HUMAN RESEARCH ETHICS COMMITTEE
Federal Wide Assurance Number: FWA00001637.

HREC 570/2018



Nepal Health Research Council
Estd. 1991

NHRC

Ref. No. 1327

13 May 2013

Mr. Nagendra Prasad Luitel
Principal Investigator
Transcultural Psychosocial Organization (TPO) Nepal
Baluwatar, Kathmandu

Ref: **Approval of Research Proposal** entitled **Community and Health Facility Survey on Mental Health in Chitwan District**

Dear Mr. Luitel,

It is my pleasure to inform you that the above-mentioned proposal submitted on 30 January 2013 (**Reg. no. 10/2013** please use this Reg. No. during further correspondence) has been approved by NHRC Ethical Review Board on 10 May 2013 (2070-01-27).

As per NHRC rules and regulations, the investigator has to strictly follow the protocol stipulated in the proposal. Any change in objective(s), problem statement, research question or hypothesis, methodology, implementation procedure, data management and budget that may be necessary in course of the implementation of the research proposal can only be made so and implemented after prior approval from this council. Thus, it is compulsory to submit the detail of such changes intended or desired with justification prior to actual change in the protocol.

If the researcher requires transfer of the bio samples to other countries, the investigator should apply to the NHRC for the permission.

Further, the researchers are directed to strictly abide by the National Ethical Guidelines published by NHRC during the implementation of their research proposal and submit progress report and full or summary report upon completion.

As per your research proposal, your total research amount is USD. 8,931.00 and NHRC processing fee is NRs. 8,650.00.

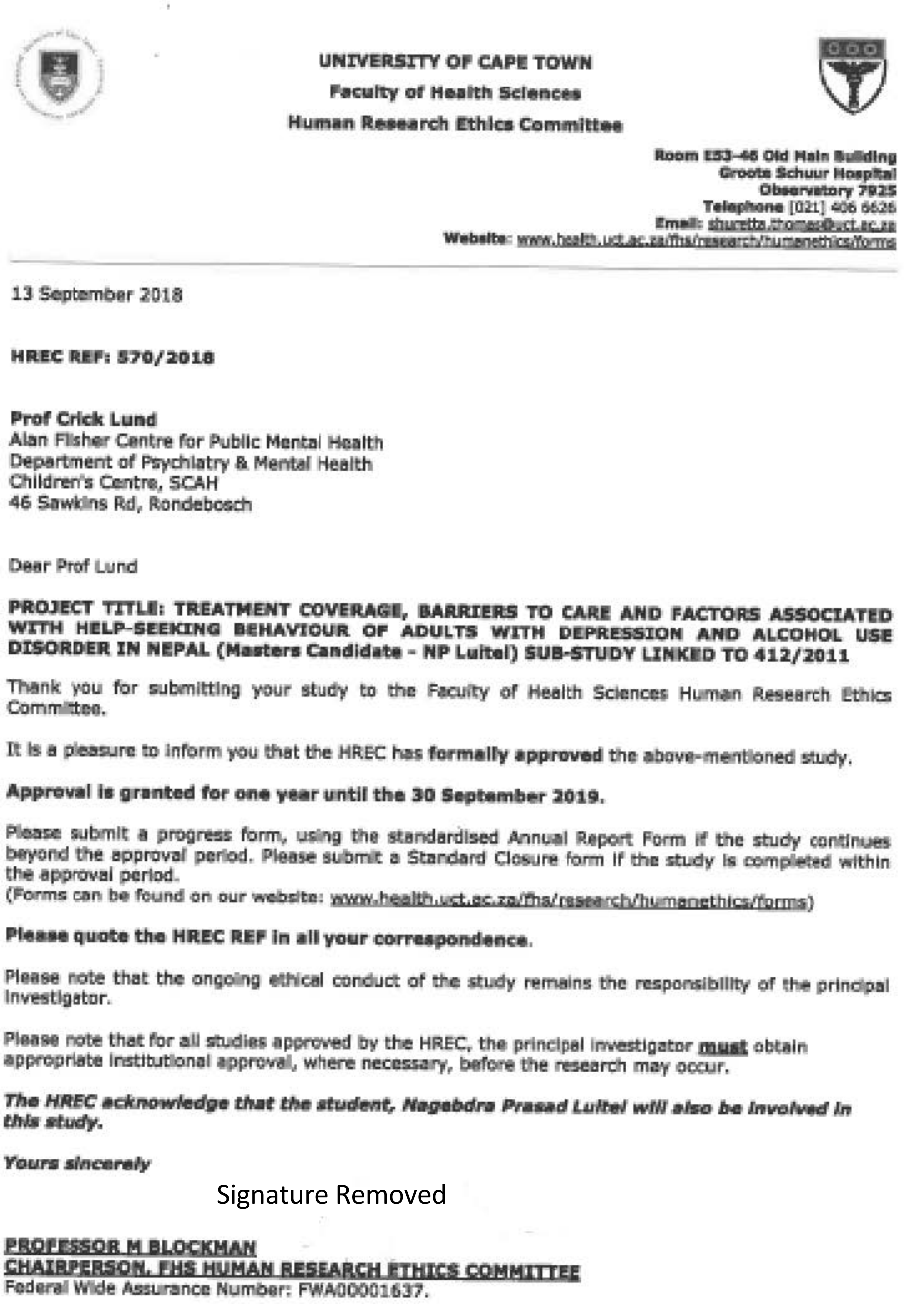
If you have any questions, please contact the research section of NHRC.

Thanking you.

Signature Removed

Dr. Shanker Pratap Singh
Member Secretary

Tel.+977-1-4254220, 4227460, Fax: +977-1-4262469, RamShah Path, P.O. Box 7626, Kathmandu, Nepal.
Website: http://www.nhrc.org.np, Email : nhrc@nhrc.org.np



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The HREC acknowledge that the student, Nagebdra Prasad Luitel will also be involved in this study.

Yours sincerely

Signature Removed

PROFESSOR M BLOCKMAN
CHAIRPERSON, FHS HUMAN RESEARCH ETHICS COMMITTEE
Federal Wide Assurance Number: FWA00001637.