Examining access to health services for women of reproductive age from ethnic communities in Chittagong Hill Tracts (CHT) of Bangladesh

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DEDICATION

To

AMMA & ABBA

WHO TAUGHT ME TO DREAM BY SACRIFICING THEIR DREAMS

DECLARATIONS

Statement of Originality

I hereby certify that the work embodied in the thesis is my own work, conducted under normal supervision. The thesis contains no material which has been accepted, or is being examined, for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made. I give consent to the final version of my thesis being made available worldwide when deposited in the University's Digital Repository, subject to the provisions of the Copyright Act 1968 and any approved embargo.

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I hereby certify that the work embodied in this thesis has been done in collaboration with other researchers. I have included as part of the thesis a statement clearly outlining the extent of collaboration, with whom and under what auspices.

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I hereby certify that the work embodied in this thesis contains published papers of which I am a joint author. I have included as part of this thesis a written statement, endorsed by my supervisors, attesting to my contribution to the joint publications.

Signed: (Shahinoor Akter) Date: 31 May 2020

List of Publications Included As Part of Thesis

In order of appearance in thesis:

1. **Akter S**, Davies K, Rich J & Inder K. Indigenous women's access to maternal healthcare services in lower- and middle-income countries: a systematic integrative review. International Journal of Public Health 2018; 1-11; doi: https://doi.org/10.1007/s00038-018-1177-4

2. **Akter S**, Rich J, Davies K & Inder K. Access to maternal health care services among Indigenous women in the Chittagong Hill Tracts, Bangladesh: A cross-sectional study. BMJ Open 2019; 1-11; doi: http://dx.doi.org/10.1136/bmjopen-2019-033224

ACKNOWLEDGEMENT OF AUTHORSHIP

I (Shahinoor Akter) here by certify that the work embodied in this thesis contains published paper/s/scholarly work of which I am a joint author. I have included as part of the thesis a written declaration endorsed in writing by my supervisor, attesting to my contribution to the joint publication/s/scholarly work.

Candidate's signature: **Date**: 31 May 2020

I (Associate Professor Kerry J Inder) attest that Research Higher Degree candidate **Shahinoor Akter** has contributed substantially to the following publications for which I am a co-author. For this publication, Shahinoor was responsible for conceiving the topic of the systematic review, running the search strategy, extracting data, conducting analysis, interpreting findings and writing and preparing the manuscript for publication.

- **Paper 1: Akter S**, Davies K, Rich J & Inder K. Indigenous women's access to maternal healthcare services in lower- and middle-income countries: a systematic integrative review. International Journal of Public Health 2018; 1-11; doi: https://doi.org/10.1007/s00038-018-1177-4

- **Paper 2:** Akter S, Rich J, Davies K & Inder K. Access to maternal health care services among Indigenous women in the Chittagong Hill Tracts, Bangladesh: A cross-sectional study. *BMJ Open* 2019; 1-11; doi: http://dx.doi.org/10.1136/bmjopen-2019-033224

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Conference Presentations

1. **Akter, S,** Davies, K, Rich, J. & Inder, K. (2019). Review of Indigenous women's access to maternal healthcare in low-middle income countries. Presented at Australian Public Health Conference 2019 in Adelaide, South Australia between 17 and 19 September 2019.

2. **Akter, S,** Davies, K, Rich, J. & Inder, K. (2019). *Maternal health care access among Indigenous women in Chittagong Hill Tracts, Bangladesh*. Presented at Australian Public Health Conference 2019 in Adelaide, South Australia between 17 and 19 September 2019.

3. **Akter, S,** Davies, K, Rich, J. & Inder, K. (2019). *Attitudes towards & experiences of accessing maternal health care services among the Indigenous women in Khagrachhari district, Bangladesh.* The abstract presented in International Conference on Public Health conference in Malaysia between 10 and 12 July. Received "Session's Best Presentation" award for this presentation.

4. **Akter, S,** Davies, K, Rich, J. & Inder, K. (2018). *Antenatal care (ANC) service utilisation among Indigenous women in Chittagong Hill Tracts Bangladesh*. Presented in Australian Public Health Conference, Cairns, Queensland on between 26 and 28 September 2018.

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TABLE OF CONTENT

Index of Tables

Index of Figures

List of abbreviations

AOR	Adjusted Odds Ratios
ANC	Antenatal Care
BBS	Bangladesh Bureau of Statistics
BDT	Bangladeshi Taka
CC	Community Clinics
CSBA	Community Skilled Birth Attendant
CHT	Chittagong Hill Tracts
CHTDF	Chittagong Hill Tracts Development Facility
CI	Confidence Intervals
EmOC	Emergency Obstetrical Care
EPI	Expanded Programme on Immunization
GFATM	Global Fund to fight AIDS, Tuberculosis, and Malaria
GPS	Global Positioning System
HDRC	Human Development Research Centre
ICDDR,B	International Centre for Diarrheal Disease Research, Bangladesh
MDG	Millennium Development Goal
MHC	Maternal Health Care
MoHFW	Ministry of Health and Family Welfare [Bangladesh]
MMR	Maternal Mortality Ratio
MCWC	Mother and Child Welfare Centre
NGO	Non-Government Organisation
OR	Odds Ratios
PNC	Post-Natal care
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
SDG	Sustainable Development Goal
TBAs	Traditional Birth Attendants
UHC	Upazila Health Complex
UHFWC	Union Health and Family Welfare Centres
USC	Union Sub-Centres
UON	University of Newcastle
UNDP	United Nations Development Program
UNDP-CHTDF	United Nations Development Program- Chittagong Hill Tracts Development Facility
UNICEF	United Nations Children's Fund
WB	World Bank
WHO	World Health Organisation

ABSTRACT

Background

During the Millennium Development Goal era, Bangladesh significantly improved maternal health outcomes. However, maternal health data on Indigenous women in the Chittagong Hill Tracts (CHT) is not available and limited evidence suggests that maternal health outcomes for these women have not improved in line with their non-Indigenous peers. This thesis investigates maternal health care (MHC) service access, satisfaction, and experiences among Indigenous women in the CHT, Bangladesh.

Methods

To undertake this investigation a sequential mixed-methods design, comprising a population-based cross-sectional survey and qualitative interviews, was informed by an integrative literature review of MHC service utilisation among Indigenous women in lower and middle-income countries. Indigenous women aged 15 to 49 years from Chakma, Marma and Tripura communities, within three years of delivery, were invited to participate in the study. Knowledge about, and prevalence of access to, Ante-Natal Care (ANC), facility delivery and Post-Natal Care (PNC) services were estimated. Factors associated with knowledge, access and satisfaction with care were determined using multivariable logistic regression, adjusted for clustering by village. In-depth interviews with 21 Indigenous women, using qualitative description techniques and with eight key informants (Indigenous community leaders and health care providers) using an ethnographic approach were conducted to explore experiences accessing MHC services. Qualitative data were analysed thematically. Findings from these mixed methods were integrated to formulate policy and practice recommendations and future research.

Results

From a total of 494 Indigenous women across two sub-districts, 438 participated in the survey (mean age 25 years, 89% response rate). Survey data revealed the estimated prevalence of *knowing about* ANC, facility delivery and PNC were 69%, 73%, and 16.4% respectively. Independent factors associated with knowing about ANC services, in order of effect size, were higher education, knowledge about nearest facilities, higher household income and older age. Independent factors associated with knowing about facility delivery were knowledge about nearest facilities; higher household income and attending ANC. Women involved in income generating activities had significantly reduced odds of

knowing about delivery services. Factors independently associated with knowing about PNC services were delivery at a facility, knowledge of childbirth complications, access to media and Marma ethnicity.

Prevalence of *access* to any MHC, ANC, delivery and PNC service were estimated at 59%, 53%, 33% and 9.8% respectively. Independent factors associated with accessing any MHC service in order of effect size, were knowledge of nearest facilities, knowledge of pregnancy-related complications, education and number of pregnancies. Independent factors associated with accessing ANC services, were knowledge about ANC benefits, place of residence and higher household income. Independent factors associated with accessing facility delivery were attending ANC, access to media, partner's level of education and place of residence. Factors independently associated with accessing PNC services were knowledge of PNC benefits and older age.

Descriptive analyses of survey data revealed that CHT Indigenous women were satisfied overall with interpersonal relationships with healthcare providers and with communication in their native language. Maintenance of personal privacy was the key independent factor associated with satisfaction of ANC services. Qualitative findings revealed that Indigenous women were not satisfied with MHC services because personal privacy at childbirth was not maintained and because of limited access to health professionals and essential resources at facilities.

Interview data revealed that CHT Indigenous women lacked knowledge about freely available, low-cost services within their communities and they mostly accessed MHC services for pregnancy-related complications that were unmanageable at home. Abusive and unprofessional behaviour from staff at public facilities, including Indigenous staff, discouraged women from accessing services. Key informants reported that distance and inadequate resources constrained healthcare providers' opportunities to provide services. They also reported there was little engagement with communities to inform the design of health programs, thus creating culturally unfriendly environments.

Discussion

Access to MHC services was lower among Indigenous women from CHT communities than the national average. CHT Indigenous women experienced discrimination by health staff including Indigenous health staff at public facilities. Absence of community-engagement in the health programs gave limited opportunities for Indigenous women to have their voices heard. Not using Indigenous native language

may have limited participation and the cross-sectional design did not allow temporal sequence to be determined and is subject to recall bias and social desirability bias. The small sample of qualitative interviews limits transferability of results and may have been subject to participation bias.

Conclusion

Lower access to maternal healthcare services among Indigenous CHT women is associated with a lack of knowledge about services and culturally unfriendly environments. Knowledge about nearest health facilities, pregnancy and childbirth complications and providing culturally appropriate health systems may improve MHC access for Indigenous women. Community engagement and context specific interventions are needed to improve maternal health outcomes for Indigenous women and their children.