ALCOHOL USE IN PREGNANCY:
MIXED METHODS APPLIED TO THE
AUSTRALIAN LONGITUDINAL STUDY
ON WOMEN’S HEALTH

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BPSYC (Hons) (Newcastle)

This dissertation is submitted for the degree of
Doctor of Philosophy (Gender and Health)
University of Newcastle, Australia

June 2017
DECLARATIONS

Originality
I hereby certify that to the best of my knowledge and belief this thesis is my own work and contains no material previously published or written by another person except where due references and acknowledgements are made. It contains no material which has been previously submitted by me for the award of any other degree or diploma in any university or other tertiary institution.

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I attest that Research Higher Degree candidate Amy Anderson contributed to the listed publications included in this thesis by publication:


by:

- Contributing to each study's conception and design
- Developing analyses plans
- Developing research materials and collecting data
- Performing both quantitative and qualitative analyses
- Interpreting the data
- Leading the writing of the manuscripts
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<td>Alexis Hure</td>
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<td>Jennifer Powers</td>
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<td>Peta Forder</td>
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Professor Robert Callister
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THESIS PUBLICATIONS

Chapter 4

Chapter 5

Chapter 6

Chapter 7

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OTHER THESIS-RELATED OUTCOMES

Journal articles


Government report

Published abstract

Conferences


Media coverage
Related to Chapter 5:

- BJOG Press Release 17 July 2013 for publication included in Chapter 5
- HMRI Press Release 19 November 2013 for publication included in Chapter 5 and presentation at the Australasian Fetal Alcohol Spectrum Disorders Conference, Brisbane, QLD
- Radio coverage: 2NUR (103.7)

Related to Chapter 6:

- HMRI Press Release 30 Jan 2014
- Press coverage: Sydney Morning Herald, The Age, WA Today, 6 Minutes, Essential Baby, Naomi Valley Independent, Roxby Downs Sun, Brisbane Times, Forensic & Science Services
- Radio/TV coverage: Channel 7 News Melbourne, Sunrise, 3AW Melbourne, BBC UK

Related to broadly to alcohol use in pregnancy:

- HMRI Press Release 03 Jul 2014 for the HMRI Open Day

Policy and impact

The research on risky alcohol consumption in pregnancy presented in Chapter 6 was used by the Honourable Sonia Hornery, MP for Wallsend, NSW to present a Notice of Motion to the Parliament of New South Wales, 25 March 2013, which urged the Minister of Health to fund prenatal services in relation to alcohol consumption during pregnancy. (Appendix D)

Loxton D. Policy Makers’ Seminar, Canberra, ACT, Australia, 14 February 2013. My work was presented by Prof Deborah Loxton to approximately 150 government representatives from the Australian Government Department of Health and Ageing (DoHA). The work presented was focused on the 2012 ALSWH report on adherence to health guidelines (see Government Report listed above), as well as drawing from my 2012 BMC Public Health publication (Chapter 4). The findings from this collaborative work were presented to inform policy makers about the alcohol consumption and alcohol guideline adherence of pregnant Australian women.
Dedication

To my family, both near and far, you are the foundation that keeps me grounded and supports me as I continue to grow. I dedicate this thesis to all of you. I hope I have made you proud.
ACKNOWLEDGEMENTS

The research on which this thesis is based was conducted as part of the Australian Longitudinal Study on Women’s Health (ALSWH), the University of Newcastle and the University of Queensland. I am grateful to the Australian Government Department of Health for funding the ALSWH. Thank you to the women of the 1973-78 cohort who provided the survey and interview data. Without these incredibly dedicated women, this work would not exist. A special thanks to the women who I interviewed, as they all had young children at the time. Having a toddler of my own now, I truly appreciate the time and commitment it took for them to tell me their stories.

Thank you to my supervisors Deborah Loxton, Alexis Hure and Frances Kay-Lambkin for your time, feedback, support and perseverance which has made this thesis possible. Thank you all for being genuinely kind-hearted, inspirational female role models. Deb, you helped to build my confidence and made me believe that I actually could do a PhD, something I questioned a great deal when I started this thesis. Your own PhD journey was truly inspiring, and often helped me to keep perspective. You helped me to grow as a researcher, particularly in expanding my views on using qualitative methods. In hindsight I see the richness this has provided, and am grateful that you strongly encouraged me to step outside of my comfort zone. Alexis, your positivity, scientific rigour and future vision helped me to scale a number of steep peaks, and gave me the final drive I needed to reach the summit. You brought a calm, rational perspective when my anxieties got the best of me. You truly went above and beyond as a supervisor and friend. I owe you so many coffees! The final sprint of this journey would not have been possible without you helping me get over that last hurdle, pulling it all together and sticking by my side. Frances, you were the fresh eyes I needed. You helped me to see things from a different angle, which I believe strengthened the end product.

To all the ALSWH staff, including directors Julie Byles and Gita Mishra, thank you. Jennifer Powers and Peta Forder, your statistical expertise astounds me, and I am so grateful that the two of you guided me throughout this PhD. You both helped me to advance my statistical skills and knowledge, which enabled me to tackle the ALSWH data. I am thankful for your friendship and the many laughs we shared. Jenny, you left some big footprints to fill. I hope that you are pleased with the work presented in this thesis, as I attempted to continue the important work you started. Thank you to the data management team Anna Graves and Ryan Tuckerman for assisting me with my
qualitative substudy, and providing tech and data management support. Thank you to Melanie Moonen for providing a good chuckle and administrative support. Natalie Townsend, Ashleigh Baker and Clare Thomson you ladies always put a little extra happiness, and sarcasm, in my day, thank you.

Two Research Higher Degree Coordinators I would like to thank are Kerry Inder and Erica James. Kerry, you helped me through one of the toughest times in my candidature. Your support and guidance helped me continue at a time when the easiest thing to do would have been to walk away. Erica, what can I say? I love stickers. Thank you for answering all my questions and for the chats on work-life balance in academia.

I am truly blessed to have made some amazing friends as we all travelled along our own PhD roads together. To Melissa Harris, Catherine Chojenta, Jane Rich and Ellie Gresham, you girls rock. You made doing a PhD so much fun, with lots of laughter, coffee and cake. We all had our moments of turbulence, and I am so very grateful that during mine you were there to listen, relate and provide some hope. Jane, you were the qualitative ying to my quantitative yang. Cath, not only did we get to share the PhD journey, but also the mama journey. I have so much respect for you being able to juggle a career and twinsies. Ellie, be honest, you really are super woman, aren’t you? Your drive and determination are awe inspiring. Mel, I would not have made it without your sarcastic banter. You, your sister and your mum have become family to me.

Thank you to all of my friends who have stuck by me, as many times I was not a pleasant person to be around, and I neglected a lot of you. Karen and Payal, thank you for sending so much love, support and positive vibes my way. Thank you to my neighbours Shelly and Rose who not only are great friends but often fed me delicious meals and treats. Paula Bridge, you always listened to my rants, motivated me to get some exercise and made sure I did not neglect my love of delicious food. Serene Yoong, you are a superstar. I am so privileged to have you as a friend and colleague. We have been through so many highs and lows together. Thank you for cooking for me, early morning brekkies, coffee dates, dinner dates, celebratory cake for any reason we could think of, walking dates and just chillin’. Thank you for letting me debrief on a regular basis. Alix Hall, thank you for always being there. You with your elephant brain were always a great reminder system throughout this PhD. I am so grateful that you are my friend, and even more grateful that we were able to live under the same roof. You put up with my moods, and stuck by me, always lifting me up. You provided kindness when
the critic took over. Thank you for Pad Thai nights, crunchy rice pudding, early brekkies, laughs, cries, debriefs and late night chats.

To my family on the other half of the world, you are with me every day. To my brothers, you are two of my best friends. Michael, thank you for making sure that I will never get a big head and for making me laugh when I need it. Jeffrey, your constant threats to kick my butt if I did not finish have gotten me over the finish line. Thank you for making the race to be the first doctor in the family a bit easier by not actually enrolling in a PhD (yet). I am grateful for the love and support from my Mom, Dad, stepmom and father-in-law. Mom, you subconsciously sparked my interest in maternal and infant health. Dad, you bring a much needed calm to my universe. You helped me persevere through the tough times, saying, “If it was easy, everyone would have a PhD.” To Matt, thank you for being the brother in my brothers’ absence to keep my head level. To my two incredible sisters-in-law Jennifer and Amanda, I am so incredibly blessed to have you both. You two have been so supportive of this juggling act I call life at the moment, and have kept me focussed on the importance of finishing this degree. I hope that this achievement inspires my nieces and nephews Maddie, Lennon, Mackenzie and Chris to aim high in life, even if it is not always easy.

Last, but definitely not least, thank you to my incredible husband Jason and our son Jack. The two of you have sacrificed the most to help me reach this goal. Jason, the fact that you are still married to me speaks to your commitment as a husband. You have copped the worst of it, including the extreme exhaustion and crankiness from late nights and stress of the never ending to-do list. Thank you for the massive hugs, letting me cry when I needed to, the words of encouragement, celebrating the achievements, pulling me back from the brink of panic on multiple occasions, taking on more of the domestic load, sacrificing time with me when I was physically or mentally absent because of the PhD, loving me unconditionally and for being as committed as I am to finishing this PhD. Jack, you were the most beautiful pause to my PhD, thank you. At times when I did not want to keep going, I thought of the message that would send to you, and chose to push on. Thank you for giving up time with Mummy so I could become Dr. Mummy.
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<th>Description</th>
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<tr>
<td>ALSWH</td>
<td>Australian Longitudinal Study on Women’s Health</td>
</tr>
<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
</tr>
<tr>
<td>AOR</td>
<td>Adjusted Odds Ratio</td>
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<tr>
<td>AQUA</td>
<td>Asking QUESTions about Alcohol in pregnancy</td>
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<tr>
<td>AUDIT</td>
<td>Alcohol Use Disorders Identification Test</td>
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<td>AUDIT-C</td>
<td>Alcohol Use Disorders Identification Test - Consumption</td>
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<tr>
<td>CES-D</td>
<td>Center for Epidemiologic Studies Depression Scale</td>
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<tr>
<td>CI</td>
<td>Confidence Interval</td>
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<tr>
<td>FARE</td>
<td>Foundation of Research and Education</td>
</tr>
<tr>
<td>GP</td>
<td>General Practitioner</td>
</tr>
<tr>
<td>HMRI</td>
<td>Hunter Medical Research Institute</td>
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<tr>
<td>M</td>
<td>Mean</td>
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<td>MeSH</td>
<td>Medical Subject Heading</td>
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<tr>
<td>NDSHS</td>
<td>National Drug Strategy Household Survey</td>
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<tr>
<td>NHMRC</td>
<td>National Health and Medical Research Council</td>
</tr>
<tr>
<td>FAS</td>
<td>Fetal Alcohol Syndrome</td>
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<tr>
<td>FASD</td>
<td>Fetal Alcohol Spectrum Disorder</td>
</tr>
<tr>
<td>(previously Fetal Alcohol Spectrum Disorders)</td>
<td></td>
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<tr>
<td>IGCD</td>
<td>Intergovernmental Committee on Drugs</td>
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<tr>
<td>IQ</td>
<td>Intelligence Quotient</td>
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<tr>
<td>OR</td>
<td>Odds Ratio</td>
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<tr>
<td>PHQ-9</td>
<td>Patient Health Questionnaire</td>
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<tr>
<td>SCOPE</td>
<td>Screening for Pregnancy Endpoints</td>
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<tr>
<td>SD</td>
<td>Standard Deviation</td>
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<tr>
<td>STROBE</td>
<td>Strengthening the Reporting of Observational Studies in Epidemiology</td>
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<td>UK</td>
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US(A): United States (of America)
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ABSTRACT

Population health guidelines aim to reduce the burden of disease by providing evidence-based recommendations that can inform health behaviours. Such guidelines are used internationally, as well as in Australia, to assist in preventing the burden associated with alcohol use during pregnancy. Consuming alcohol during pregnancy at high levels may lead to severe outcomes such as Fetal Alcohol Spectrum Disorder, stillbirth, miscarriage and growth restriction. The impact of low level alcohol use during pregnancy is unclear and complex, leading to an inability to define a specific threshold at which harm occurs. The lack of clarity has led to inconsistent alcohol guidelines for pregnant women, particularly in Australia. The Australian alcohol guidelines in 1992 initially recommended abstinence, before revising the recommendation in 2001 to condone low intake, and then reverting back to abstinence in 2009. At the time of commencing this thesis, no study had assessed the population-based prevalence and predictors of alcohol use during pregnancy in respect to the change of guidelines in 2009. This thesis used a mixed methods approach applied to the Australian Longitudinal Study on Women’s Health, a prospective cohort, to investigate predictors of alcohol use during pregnancy, within the context of the changing Australian alcohol guidelines. The two specific thesis aims were to identify: (i) the prevalence of alcohol use during pregnancy since the introduction of the 2009 alcohol guidelines; and (ii) the factors contributing to alcohol use among pregnant women within Australia. The results suggest that more than 70% of women consume alcohol during pregnancy, even with the message of abstinence; although such a message did correspond with a lower prevalence compared to the prevalence under the low intake guidelines. The most consistent indicator of alcohol use during pregnancy was pre-pregnancy alcohol patterns, particularly weekly and binge drinking. These behaviours were often continued into pregnancy, putting both the woman and fetus at an increased risk of potential adverse outcomes. Qualitative interviews with women who were pregnant after 2009 suggest that the message of “not drinking is the safest option” has not filtered down in a clear and consistent manner. Such communication was desired by the women, particularly via healthcare professionals, to enable them to make informed choices about alcohol use during pregnancy. These findings taken together suggest that the change of population alcohol guidelines to an abstinence message for pregnant women requires systematic dissemination via policy and practice to ensure that women are provided with information and support to reduce and abstain from alcohol use during pregnancy.