The final version of this paper was published in Women and Birth 29 (2016), pp. 168-171 DOI

information: 10.1016/j.wombi.2015.10.001

Ethnicity or cultural group identity of pregnant women in Sydney, Australia: is country of birth a reliable proxy measure?

Porter, M.¹ Todd, A.L.¹ Zhang, LY.¹

Author qualifications

Dr Maree Porter BA(Hons), PhD

Associate Professor Angela L Todd BA(Hons), MBA, PhD

Miss Lillian Y Zhang BPharm, MMBS(Hons)

Author affiliation

¹Clinical and Population Perinatal Health Research

Kolling Institute of Medical Research

University Department of O&G, Building 52, Royal North Shore Hospital

St Leonards, NSW, 2065, AUSTRALIA

Corresponding Author: Maree Porter

Postal address: Clinical & Population Perinatal Health Research

c/- University Dept of O&G, Building 52, Royal North Shore Hospital

St Leonards NSW 2065 Australia

Telephone:

+61 2 9462 9784

+61 2 9906 6742 Fax:

Email: maree.porter@sydney.edu.au

Disclaimer: The authors state the views expressed in this submitted article are our own and not an official position of the University of Sydney or our funder the National Health and Medical Research Council.

Abstract (250 words)

Background: Australia has one of the most ethnically and culturally diverse maternal populations in the

world. Routinely few variables are recorded in clinical data or health research to capture this diversity.

This paper explores and how pregnant women, Australian-born and overseas-born, respond to survey

questions on ethnicity or a cultural group identity, and whether country of birth is a reliable proxy

measure.

Methods: Frequency tabulations and inductive qualitative analysis of data from two questions on country

of birth, and identification with an ethnicity or cultural group from a larger survey of pregnant women

attending public antenatal clinics across four hospitals in Sydney, Australia.

Results: Responses varied widely among the 762 with 75 individual cultural groups or ethnicities and 68

countries of birth reported. For Australian-born women (n=293), 23% identified with a cultural group or

ethnicity, and 77% did not. For overseas-born women (n=469), 44% identified with a cultural group or

ethnicity and 56% did not. Responses were coded under five emerging themes.

Conclusions: Ethnicity and cultural group identity are complex concepts; women across and within

countries of birth identified differently. Over three quarters of Australian-born, and over half of over-seas

born women, reported no ethnicity or cultural group identity, indicating country of birth is not a reliable

measure for identifying diversity. Researchers should scrutinise research questions and data usage, policy

makers consider the complexity of ethnicity or cultural group identity, and the limitations of a single

variable measure to identify ethnically and culturally diverse pregnant women and deliver woman-centred

care.

Keywords: ethnicity, data collection, healthcare survey, survey methods, pregnant women.

2

BACKGROUND

Associations between country of birth and poor maternal, fetal and infant health outcomes are well documented.¹⁻³ In Australia, reports of lower rates of service uptake by pregnant migrant and refugee women, Indigenous women and Australian-born women of non-English speaking backgrounds, has been cause for concern in policy and maternal health services, ⁴⁻⁶ given the maternal population is growing in cultural and linguistic diversity, particularly in major cities such as Sydney⁷. In response, government policies have demanded identification of issues specific to culturally and linguistically diverse women, ^{8, 9} in an effort to to ameliorate health inequalities and to provide more culturally sensitive, woman-centred, ¹⁰ maternal and child health services.

International ethnicity data collection

Internationally, how health care providers and researchers collect, interpret and use ethnicity data of patient populations is widely debated. In the United States, federal health data collection includes race and ethnic group categories with continued debate over the use of ethnic labels, race classifications and racial stereotyping, ^{11, 12} as well as the utility of these data. ^{13, 14} Canada routinely collects ethnic origin data at a population level, and more recently at the clinical level; a practice that has drawn local criticism over possible harms to ethnic minorities and Indigenous people. ¹⁵ In the United Kingdom (UK), the National Health Service (NHS) collects ethnicity data to identify health risks and provide equity of service for patients. An audit of the accuracy of coding in English NHS hospital records, found between 39 to 43% of ethnicity data for ethnic minorities was incorrect. ¹⁶ Population census in the UK captures multiple ethnic identities and cultural affiliations, as well 'national identity' (British). Recent data collected in England found established ethnic minority groups, regularly categorised in policy and health literature as "Asian" (Bangladeshi, Pakistani, Indian), and those of non-Christian religions, were more likely to identify as 'British' than 'English' or with their ancestral homeland. ¹⁷ This research highlights

identity and relationships to a host country for migrant families, can change over time and across generations.

Ethnicity data collection and the Australian maternal population

The Australian Bureau of Statistics (ABS), responsible for population census data collection, defines ethnicity as a multi-dimensional concept that may include cultural traditions and customs, shared history, geography, language, religion, and/or identification with a minority group. ¹⁸ The collection of ethnicity data relies on self-perception, and responses are coded using hundreds of categories. ¹⁸ Beyond census data collection, very few variables are used to capture ethnicity or cultural identity with 'country of birth' routinely used as a proxy measure, particularly in clinical settings. To create a profile of Australia's birthing women, the Australian Institute for Health and Welfare (AIHW) use maternal country of birth and Indigenous status as the two mandatory 'ethnicity related' items to be collected across all maternity facilities ¹⁹. While some argue the benefits of using country of birth; as easily collected and the most consistently reported, ²⁰ others have demonstrated variation in reporting and recording accuracy of this data. ^{21, 22}

Single variable measures of ethnicity and aggregating data to report health outcomes

Researchers have routinely used the concepts of ethnicity and the variable country of birth interchangeably when reporting associations between different ethnic groups and health outcomes. This has been the subject of criticism as country of birth and ethnicity are not equivalent measures. ^{23, 24} Ethnicity and cultural identity are complex, dynamic, and multi-layered concepts referring to an individual's sense of identity, their relationship to the collective identity of a group and the wider social setting, which can change over time and across generations. ^{18, 23, 24} Alternatively, country of birth

indicates one's geographical place of origin, which may or may not be a reliable indicator of associated factors such as diet, language, socioeconomic and migration status, and culture, especially at the individual level. Many users of country of birth and ethnicity information also commonly aggregate or transform data into more statistically manageable units, for example the widely used practice of combining countries of birth or ethnicities into collective groups such as "Asian" or "English speaking", that represent such heterogeneity as to be of questionable utility. ^{25, 26} Omitting methodological details such as criteria for assigning research participants to an ethnicity, such as "Asian", in published results, is also common practice across disciplines in health research and is rarely questioned. ²³

The population of Greater Sydney has been described as one of the most ethnically diverse in Australia with over two million residents reporting both parents were born overseas.²⁷ However, little is known about how pregnant women living in Sydney identify with culture or ethnicity, or how they respond to these concepts in survey questions. In this paper we report on a recent survey with pregnant women and describe the relationship between country of birth and self-reported cultural group or ethnicity.

METHODS

As part of a broader study investigating pregnant women's knowledge and expectations of pregnancy and birth, women attending antenatal clinics in four public hospitals servicing ethnically diverse populations in Sydney, Australia, were invited to complete a short anonymous survey (~5 minutes) between July and December 2012. Pregnant women of any gestation, who could read English and had not completed the survey previously, were eligible to participate. Women who consented to participate completed the survey while waiting for their antenatal appointment. Further details are reported elsewhere. ²⁸

The survey included the following two questions which are the focus of this paper:

Where were you born?			
		In Australia	
		Overseas (Please tell us where?)	
Do you	ider	ntify with any cultural group or ethnicity?	
		No	
		Yes (Please write the name of this group)	

Responses to the questions were summarised using frequency tabulations. Open-ended responses were coded independently by two researchers (MP, AT) applying an inductive data coding system to identify meaning units and create codes from emerging themes.²⁹ Ethics approval for the study was granted by the Northern Sydney Local Health District Human Research Ethics Committee.

RESULTS

Of the 850 women invited to participate, 784 completed the survey (response rate 92%). Women declined to participate due to English language difficulties, not being interested in the study, or caring for child/ren. The majority of women were 25 years of age or over (95%) with a median age of 32 years, and 62% held a University degree or higher. ²⁸ A small number of women (n=22, 3%) did not answer the cultural group/ethnicity question, leaving responses from 762 women for analysis.

Among the 762 women, 469 (61.5%) were born overseas and 293 (38.5%) were born in Australia. Women nominated 68 countries of birth (including Australia) and 74 cultural groups or ethnicities. Of the 469 women born overseas, 208 (44%) identified with a cultural group or ethnicity, and 261 (56%) answered 'no' to this question. The frequency with which overseas-born women identified with a cultural

group or ethnicity differed across countries of birth, for example 36% of women born in India, 48% of women born in China, and 66% of women born in Nepal. Among the 293 Australian-born women, 63 (22%) nominated a cultural group or ethnicity and 230 (78%) answered 'no' to this question. Nine women nominated 'Australian' as their cultural group or ethnicity.

Inductive content analysis of women's qualitative responses for cultural group or ethnicity, identified five codes from emerging themes (Table 1). The theme *cultural group/ethnicity paralleling country of birth* emerged in numerous responses from women born overseas, with *cultural group/ethnicity as an ethnic minority group* emerging in numerous responses from women born in Australian.

DISCUSSION

The large number of countries of birth, and cultural groups and ethnicities identified by the women in this study, attest to the ethnic diversity of our sample. Other survey research found similar complexity and variation in responses to ethnicity questions among pregnant women attending antenatal clinics across Greater Sydney.³⁰ Less than half of the overseas born women, and approximately one-quarter of Australian-born women identified with a cultural group or ethnicity. The majority of women did not. The propensity to nominate a cultural group or ethnicity appeared to vary across countries of birth. The recurring theme in cultural group or ethnicity responses nominated by women born overseas was one that paralleled their country of birth, but several other types were identified, including cultural and ethnic identities associated with a religious affiliation, an ethnic minority group, a geographic or regional location, or a combination of these, demonstrating the diversity of meaning of these concepts for individual women (see Table 1.).

While country of birth is commonly used as a convenient indicator of ethnicity, ^{21, 31} our findings suggest this variable is different from, and not a proxy for, cultural group or ethnicity. As we found, the majority of participants responded to a question about country of birth, although cultural group or ethnicity is more complex with not all women responding to this question. Identification with a cultural group or ethnicity is, by definition, self-determined and, as the current results show, interpreted differently by our sample of women. Among women born in neighbouring countries, like India, Nepal, and China, how they identify with a cultural group or ethnicity varied within and across countries of birth. Importantly, such differences in identity across women in India, Nepal and China would be lost if these data were aggregated, as is common practice, into a group called 'Asian'. ²⁶

We did not collect information on period of residence in Australia, migration history or whether different responses to questions of cultural group or ethnicity are associated with shorter or longer periods of living in Australia. An international panel of experts recommended 'length of time in country' as the second most important of five migration indicators for national and international monitoring of migration and perinatal health.³¹ Current literature suggests for women who settle in Australia and identify with an ethnicity or cultural group that parallels their country of birth; preservation of cultural values and rituals is important. ^{4, 32, 33} Research has found community engagement with women who share migration history, culture and language, provides pregnant women with an opportunity for social interaction, conversation and information exchange on childcare, breastfeeding and other issues such as navigating life and different cultural values in a new country and life as a new mother^{4, 33}.

In Australia, the term 'ethnic' has been applied to describe people born overseas, generally from language backgrounds other than English. This may explain why few Australian-born women in our study identified with a cultural group or ethnicity. Historically, the term 'ethnic' has also been used

derogatively to classify migrant and refugee groups as 'others' or 'outsiders', different from the dominant 'white Australian' population. ³⁴⁻³⁶ Overseas-born women in our study may have chosen not to identify a cultural group or ethnicity to avoid racism towards themselves or their children ³³, or alternatively, as a commitment to their adopted country of residence ¹⁷.

Pregnant refugee and asylum seeker women in Australia are particularly vulnerable. Research has shown refugee, asylum seeker and migrant women fleeing violence and political conflict, are more likely to be suspicious and fearful of questions regarding cultural group and ethnic identity.^{6, 31, 37, 38} This may reflect the migration experience of some women surveyed and may account for nonresponses to either questions on country of birth and cultural group or ethnicity.

In our original survey project, we included the questions about country of birth and cultural group/ethnicity because we anticipated cultural differences in women's beliefs about pregnancy and birth. These items were not the focus of our survey and our analysis of these data was determined posthoc, which we recognise as a limitation. Further research exploring how the two concepts of cultural group and ethnicity are interpreted by women would help to clarify whether they are distinct concepts or closely related, and whether they should be presented as separate questions or combined as in our study. Finally, restriction of the study to women who could read English may have excluded some women with cultural and ethnic affiliations, thus biasing our sample.

Despite these limitations, the results demonstrate the diversity embedded in responses to a survey question on cultural group identity or ethnicity and how interpretation can vary across individual women.

These findings challenge us to consider, accurately identifying ethnically diverse women, requires more than one data item if we wish to understand and respond to their unique circumstances and needs.

CONCLUSIONS

Country of birth and ethnicity data is collected to identify potential risk factors for poor maternal, fetal and infant health outcomes and service equity and access issues in pregnant women. Country of birth and ethnicity should not be used interchangeably or treated as equivalent measures. Findings suggest if researchers wish to collect ethnicity data and risk factors associated in pregnancy research, and in the clinical settings, we should be clear about our questions. What we want to know should drive what data we collect. In order to identify pregnant women within multicultural and multiethnic populations at increased risk of service access problems or adverse health outcomes, a number of measures are needed, rather than relying on a single variable such as country of birth. Identifying key health indicators including Indigenous status, language(s) spoken at home, refugee status, length of time in Australia, and country of birth, will provide more comprehensive information to develop primary prevention and intervention programs for all women birthing in Australia.

ACKNOWLEDGEMENTS

The authors would like to thank the women who took the time to participate in the survey; research midwives Jill Milligan, Rachel Reid, Jocelyn Sedgley and Katrina White-Mathews and Dr. Antonia Shand for their contribution in data collection and recruitment. This project was funded by an Australian National Health and Medical Research Council (NHMRC) Centre for Research Excellence Grant (1001066).

REFERENCES

- 1. Perampalam S, Ganda K, Chow K-A, et al. Vitamin D status and its predictive factors in pregnancy in 2 Australian populations. *Aust N Z J Obstet Gynaecol* 2011; 51(4): 353-9.
- 2. Van Der Tuuk K, Koopmans CM, Groen H, et al. Prediction of progression to a high risk situation in women with gestational hypertension or mild pre-eclampsia at term. *Aust N Z J Obstet Gynaecol* 2011; 51(4): 339-46.
- 3. Uppal P, Holland AJA, Bajuk B, et al. The association between maternal country of birth and neonatal intensive care unit outcomes. *Early Hum Dev* 2013; 89(8): 607-14.
- 4. Chu CMY. Postnatal experience and health needs of Chinese migrant women in Brisbane, Australia. *Ethn Health* 2005; 10(1): 33-56.
- 5. Hennegan J, Redshaw M, Miller Y. Born in another country: women's experience of labour and birth in Queensland, Australia. *Women Birth* 2014; 27(2): 91-7.
- 6. Stapleton H, Murphy R, Correa-Velez I, et al. Women from refugee backgrounds and their experiences of attending a specialist antenatal clinic. Narratives from an Australian setting. *Women Birth* 2013; 26(4): 260-6.
- 7. Australian Bureau of Statistics. Overseas born Aussies hit a 120 year peak. 3412.0 Migration, Australia, 2013-142015. Available at: www.abs.gov.au (accessed 20 March 2015).
- 8. Department of Health and Ageing. The Department of Health and Ageing Agency Multicultural Plan 2013-2015. 2013. http://www.phio.org.au/downloads/file/aboutphio/DoHA-AgencyMulticulturalPlan2013.PDF (accessed 1 March 2015).
- 9. NSW Health. Policy and Implementation Plan for Healthy Culturally Diverse Communities 2012–2016. North Sydney: NSW Ministry of Health, 2012.
- 10. Fahy K. What is woman-centred care and why does it matter? Women Birth 2012; 25(4): 149-51.
- 11. Laws MB, Heckscher RA. Racial and ethnic identification practices in public health data systems in New England. *Public Health Rep* 2002; 117(1): 50-61.

- 12. Winker MA. Measuring race and ethnicity: why and how? JAMA 2004; 292(13): 1612-4.
- 13. Waters MC. Immigration, intermarriage, and the challenges of measuring racial/ethnic identities. *Am J Public Health* 2000; 90(11): 1735-7.
- 14. Kaplan JB, Bennett T. Use of race and ethnicity in biomedical publication. *JAMA* 2003; 289(20): 2709-16.
- 15. Varcoe C, Browne AJ, Wong S, Smye VL. Harms and benefits: collecting ethnicity data in a clinical context. *Soc Sci Med* 2009; 68(9): 1659-66.
- 16. Saunders CL, Abel GA, El Turabi A, et al. Accuracy of routinely recorded ethnic group information compared with self-reported ethnicity: evidence from the English Cancer Patient Experience survey. *BMJ Open* 2013; 3(6): e002882.
- 17. Jivraj S. Who feels British? The relationship between ethnicity, religion and national identity in England. *Dynamics of Diversity: Evidence from the 2011 Census*, June 2013. Available at: www.ethnicity.ac.uk/medialibrary/briefingsupdated/who-feels-british.pdf (accessed 1 March 2015).
- 18. Australian Bureau of Statistics. Australian Standard Classification of Cultural and Ethnic Groups (ASCCEG). *About the Classification*, 16/08/2011, 2011. Available at: http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/1249.0main+features22011 (accessed 1 March 2015).
- 19. Li Z, Zeki R, Hilder L, Sullivan EA. Australia's Mothers and Babies 2011. Perinatal statistics series no. 28. Canberra: AIHW National Perinatal Epidemiology and Statistics Unit, 2013.
- 20. Australian Institute of Health and Welfare. 2010 Australian National Infant Feeding Survey: indicator results. Canberra: AIHW 2011.
- 21. Tran DT, Jorm L, Lujic S, et al. Country of birth recording in Australian hospital morbidity data: accuracy and predictors. *Aust N Z J Publ Heal* 2012; 36(4): 310-6.
- 22. Laws PJ. Perinatal National Minimum Data Set compliance evaluation 2001 to 2005 Sydney: AIHW National Perinatal Statistics Unit, 2008.
- 23. Bradby H. Describing ethnicity in health research. *Ethn Health* 2003; 8(1): 5-13.

- 24. Senior PA, Bhopal R. Ethnicity as a variable in epidemiological research. *BMJ* 1994; 309(6950): 327-30.
- 25. Aspinall PJ. Operationalising the collection of ethnicity data in studies of the sociology of health and illness. *Sociol Health Illn* 2001; 23(6): 829-62.
- 26. Bhopal RS, Phillimore P, Kohli HS. Inappropriate use of the term 'Asian': an obstacle to ethnicity and health research. *J Public Health Med* 1991; 13(4): 244-6.
- 27. Australian Bureau of Statistics. Census QuickStats 2011 (accessed 17 March 2015).
- 28. Zhang LY, Todd AT, Khambalia A, Roberts C L. Women's beliefs about the duration of pregnancy and the earliest gestational age to safely give birth. *Aust NZ J Obstet Gynaecol* Online October 2014; DOI: 10.1111/ajo.12263.
- 29. Onwuegbuzie AJ, Combs JP. Emergent data analysis techniques in mixed methods research: A synthesis. In: Onwuegbuzie AJ, Combs JP, eds. Handbook of mixed methods in social and behavioral research. Thousand Oaks: Sage; 2010: 397-430.
- 30. Jordens CF, Kerridge IH, Stewart CL, et al. Knowledge, beliefs, and decisions of pregnant Australian women concerning donation and storage of umbilical cord blood: a population-based survey. *Birth* 2014; 41(4): 360-6.
- 31. Gagnon AJ, Zimbeck M, Zeitlin J. Migration and perinatal health surveillance: an international Delphi survey. *European Journal of Obstetrics & Gynecology and Reproductive Biology* 2010; 149(1): 37-43.
- 32. Maharaj N, Bandyopadhyay M. Breastfeeding practices of ethnic Indian immigrant women in Melbourne, Australia. *Int Breastfeed J* 2013; 8(1): 17.
- 33. Liamputtong P. Life as mothers in a new land: the experience of motherhood among Thai women in Australia. *Health Care Women Int* 2003; 24(7): 650-68.
- 34. Anderson K. Exclusionary politics and the question of national belonging: Australian ethnicities in 'multiscalar' focus. *Ethnicities* 2005; 5(4): 460-85.

- 35. Anderson Z. Reading 'multiculturalism': a historiography of policy and ideal in Australia. *Hist Compa* 2013; 11(11): 905-17.
- 36. Ang I. Beyond Chinese groupism: Chinese Australians between assimilation, multiculturalism and diaspora. *Ethnic Racial Stud* 2013: 1-13.
- 37. Tait P. Refugee Women in Australia and Woman-Centered Midwifery Care. *Nuritinga* 2013; (12): 31-9.
- 38. Yelland J, Riggs E, Wahidi S, et al. How do Australian maternity and early childhood health services identify and respond to the settlement experience and social context of refugee background families? *BMC Pregnancy Childbirth* 2014; 14: 348.

Table 1: Coding of qualitative responses using emerging categories for cultural groups and ethnicities identified by women

Code – Emergent theme	Example of Coded Responses
cultural group/ethnicity paralleling country of birth	Chinese - China
	Greek - Greece
	Brazilian - Brazil
	Australian - Australia
cultural group/ethnicity as a religion	Jewish, Islam, Greek Orthodox, Christian,
	Catholic, Hindu, Sikhism
cultural group/ethnicity as an ethnic minority group	Basque, Spain; Kashmiri, India; Chinese,
	Australia
cultural group/ethnicity as a (geographic) regional	Pacific Islander, South American, European,
identity	Arab, African
cultural group/ethnicity representing multiple	Fijian Christian European; Spanish Latin
identities	American; Catholic Chinese, Hindu Nepalese,
	Greek Australian