



RESEARCH ARTICLE



Conscientious objection – a cross-sectional, vignette-based, mixed methods exploration of Australian pharmacists' perspectives

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ABSTRACT

Background: Conscientious objection (CO) in healthcare is a controversial topic. Some perceive CO as freedom of conscience, others believe their professional duty-of-care overrides personal-perspectives. There is a paucity of literature pertaining to pharmacists' perspectives on CO.

Aim: To explore Australian pharmacists' decision-making in complex scenarios around CO and reasons for their choices.

Method: A cross-sectional, qualitative questionnaire of pharmacists' perspectives on CO. Vignette-based questions were about scenarios related to medical termination, emergency contraception, IVF surrogacy for a same-sex couple and Voluntary Assisted Dying (VAD)

Results: Approximately half of participants ($n = 223$) believed pharmacists have the right to CO and most agreed to supply prescriptions across all vignettes. However, those who chose not to supply ($n = 20.9\%$), believed it justifiable, even at the risk of patients failing to access treatment. Strong self-reported religiosity had a statistically significant relationship with decisions not to supply for 3 of 4 vignettes. Three emergent themes included: *ethical considerations, the role of the pharmacist and training and guidance.*

Conclusion: This exploratory study revealed perspectives of Australian pharmacists about a lack of guidance around CO in pharmacy. Findings highlighted the need for future research to investigate and develop further training and professional frameworks articulating steps to guide pharmacists around CO.

KEYWORDS Conscientious objection (CO); pharmacy; equity; access to medicines; ethical considerations; religion; refusing supply

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Background

Conscientious objection (CO) is a controversial topic in healthcare. In Australia CO is accommodated across various healthcare laws (New South Wales Parliament Legislative Council Standing Committee on Law and Justice Report no 79 2021), with general statements indicating healthcare professionals have the right to conscientiously object. However, there are no clear instructions regarding how to manage such cases and no specificity towards any healthcare profession, including pharmacy. CO is described as, 'a practitioner's refusal to provide a service primarily because the action would violate their moral or ethical values' (Pharmaceutical Society of Australia, 2017). Some perceive CO as a freedom of conscience (Smith, 2006). Others deem it 'a burden ... that patients should not have to shoulder' (Cantor, 2009). In modern medicine CO is relevant to many situations, e.g. termination of pregnancy, contraception (Blaschke et al., 2019; Fujioka et al., 2018) and voluntary-assisted-dying (VAD) (Lawrence & Curlin, 2009).

From a patient perspective, CO by a healthcare professional can have far-reaching implications that may impact access to treatment. Justice and autonomy are central tenants of healthcare ethics (Beauchamp & Childress, 2019). Patients may feel these principles compromised when their provider objects. Existing literature primarily focuses on investigating CO held by physicians, nurses and midwives, more than pharmacists. For physicians this encompasses all disciplines, depending on specialities – e.g. abortion and contraception in women's health, hormone replacement therapy for gender identity and VAD, to name a few. For example, a 2011 study of 1032 US physicians, found doctors divided about CO, with almost half disagreeing with referring, deeming referral itself as immoral (Combs et al., 2011). Another 2009 national survey of 1000 US primary-care physicians, concluded that doctors believed respecting 'patient autonomy' did not guide their decision-making (Lawrence, 2009). In Australia, a 2019 qualitative study identified that most doctors would not allow their moral/religious beliefs to impact patientcare (Keogh et al., 2019).

Implications of CO for nurses primarily involve abortions and women's reproductive health, and it has been identified that nurses need additional support to address these issues (Lamb et al., 2019). Dobrowolska et al. (2020) compared literature from Poland and the UK, concluding that regulation for nurses in the UK is limited to reproductive health, while in Poland, there are no specific procedures to which nurses can apply an objection (Dobrowolska et al., 2020). Even medical students' views have been investigated across multiple studies (Card, 2012; Darzé & Barroso-Júnior, 2018; Hagen et al., 2011; Nordstrand et al., 2014; Strickland, 2012).

As medicine experts and gatekeepers of medicines, the implications of CO for pharmacists are across many scenarios, such as VAD in hospital pharmacy,

contraception access in community pharmacies, medical abortion, hormone therapy or any service that requires a medication as part of treatment.

In Australia, legislation fails to define or detail what CO is and what should be done if a healthcare professional chooses to CO, especially for pharmacists. This ethical landscape has been left to professional organisation bodies to develop broad professional standards in an attempt to address complex ethical issues around CO. For example, the Pharmaceutical Society of Australia (PSA) has a set code of ethics in which they define CO and stipulate that a conscientious objector should 'appropriately facilitate continuity of care for the patient'. However it is important to mention that this has not been updated since 2017 (Pharmaceutical Society of Australia, 2017). Additionally, the Australian Health Practitioner Regulation Agency (AHPRA) developed a shared code of conduct publication in 2022 (Australian Health Practitioner Regulation Agency (AHPRA) & National Boards, 2022) – applicable to 12 different allied healthcare professionals including pharmacists but excluded doctors, nurses and midwives. This publication shares the PSA's same clause regarding CO and the need to ensure continuity of care, however falls short of clarifying what actions are required to achieve this. The only exception at current, is service specific examples. The most recent being the new VAD laws which have legislated clauses acknowledging and respecting the rights of all parties involved to conscientiously object.

The Act allows for registered health practitioners who have a CO to VAD to refuse to be involved in key parts of this process, including prescribing, supplying, administering, or being present for administration of a VAD substance. However those who conscientiously object to VAD cannot prevent or interfere with VAD access or associated processes that are being completed by other staff and are expected to provide the usual standard of care to their patients. (Callaghan & Vella, 2023)

Despite this, and being ever-more responsible for supply of potentially contentious medicines (Lee et al., 2015; Verweel et al., 2018), exploration of pharmacists' decision-making around CO has been limited (Davidson et al., 2010; Griggs & Brown, 2007; Piecuch et al., 2014; Verweel et al., 2018). A recent study on Australia's VAD laws acknowledged this absence, indicating 'future research could expand on findings by targeting specialities absent from the sample such as pharmacy' (Haining et al., 2021). Additionally, the literature has yet to explore why pharmacists may conscientiously object to other contentious prescriptions.

Aim

This study aimed to explore Australian pharmacists' decision-making in complex scenarios around CO and reasons for their choices.

Ethics approval

This study was approved by the University of Sydney Human Research Ethics Committee [Ref No. 2019/658] between October 2019 and March 2020.

Methods (See flowchart – supplement C)

Study design

A cross sectional, qualitative questionnaire for registered pharmacists in Australia was distributed between January and March 2020. The questionnaire was developed by the research team based on scenarios identified from previous research, and the general literature (Davidson et al., 2010; Hanlon et al., 2000; Isaac et al., 2019; Piecuch et al., 2014). Prior to piloting the questionnaire, five experts (with the inclusion criteria of having experience and academic expertise in bioethics, healthcare research and healthcare practice; and the exclusion of not having met inclusion criteria) helped establish face and content validity. They were asked to review whether the proposed questions in the questionnaire would adequately capture a pharmacist's decision-making around CO, and whether the questions purportedly measured the intended diversity in responses.

A draft of the questionnaire was then piloted in 2019 with 62 pharmacists at an international conference (International Pharmaceutical Federation (FIP) 2019) for readability, content and platform useability (Isaac et al., 2023). Minor changes were made to response options, display of the questionnaire and typographical errors in response to both experts' validation and the pilot feedback.

Final questionnaire

The full, online questionnaire (Supplement B) consisted of 20 questions divided into three sections: demographics (Q1-Q7), personal perspectives (Q8-Q13, Q18-Q20) and vignettes (Q14-Q17). The questionnaire instrument consisted of mixed formats, including multiple-choice, dichotomous responses, Likert scale-type questions, and open-ended, free text response sections.

The four key hypothetical vignettes portrayed challenging or ethically controversial issues in pharmacy practice relevant to the Australian context, which may evoke CO. The vignette topics incorporated the dispensing of the following medicines:

1. MS-2 Step® medical abortifacient (mifepristone + misoprostol)
2. Emergency contraception pill (ECP) – for a consenting 15-year-old female
3. Clomifene (IVF-therapy) for a surrogate, for a same-sex couple.

4. Pentobarbital for VAD (Voluntary Assisted Dying) – to the wife of a 75-year-old man with terminal pancreatic cancer.

Respondents were required to select either 'Supply', 'Conditional supply', or 'Do not supply'. They were also asked to provide additional reasoning for their selection in a free-text response section, before progressing through the questionnaire. Mandatory response was enabled for all questions. The questionnaire programme prompted participants to complete mandatory questions prior to submitting that page. Participants could choose to go back through questions and change responses prior to submitting the final questionnaire. All responses were anonymous.

Analysis

Each question required an answer to progress to the next, therefore partially completed questionnaires could not be submitted, and hence not included for analysis. The analysis incorporated a mixed methods approach, as illustrated in flowchart (Supplement C). A convergent parallel (Creswell & Clark, 2017), mixed methods research design was utilised to collect quantitative and qualitative data simultaneously and analysed them separately to allow for the collection of numerical and non-numerical data that were mutually exclusive however still helped inform one another.

As part of the exploratory process and delving into the respondents' reasoning, the open-ended responses were exported from Survey Planet to Excel for data organisation, then uploaded to NVivo (QSR, 12.6.0-3841, 2019) software for thematic coding by SI. For quality control, the research team (SI, BC and AJM) independently read, coded and reviewed respondents' comments into emergent themes.

Thematic analysis was conducted for each vignette separately to identify trends and triangulate themes across the various responses (Green & Thorogood, 2018; Yin, 2015). These themes were then discussed and reviewed until consensus was achieved on the coding scheme for the thematic analysis. Data saturation was reached after the analysis of 135 responses; however, all responses were analysed to assure there was no new information or themes. The analytical technique of 'constant comparison' (a component of grounded theory; Glaser & Straus, 1967) was adopted to extract and code key themes.

For the quantitative data, statistical analyses were conducted using the statistical software R (Version 3.6.0), with a series of bivariate and Chi-square analyses to compare responses to each vignette by participants from different demographics.

Methodological triangulation, specifically 'data merging' was utilised to integrate the reporting of both quantitative data with the incorporation of

identified themes to support or refute the quantitative results (Alele & Malau-Aduli, 2023). Data analysis followed the Checklist for Reporting of Survey Studies (CROSS) and Standards for Reporting Qualitative Research (SRQR) checklists (O'Brien et al., 2014; Sharma et al., 2021).

Recruitment

Participants were recruited via snowball sampling, by circulation of an online invitation, linked to the electronic questionnaire via professional organisations' websites (Pharmaceutical Society of Australia and Pharmacy Guild), social media platforms (LinkedIn®, Facebook®, Twitter®), and through sharing of emails in professional networks. The questionnaire was available online from January 2020 to March 2020 (coinciding with the COVID pandemic). The only inclusion criterion was that participants were registered pharmacists with the Australian Health Practitioner Regulation Agency (AHPRA). The questionnaire was distributed through the web-based application, Survey Planet® (<https://surveyplanet.com/>). This contactless method was in keeping with the COVID-19 pandemic restrictions in Australia at the time. Consent was implied by the voluntary submission of responses to the anonymous questionnaire, as stipulated in the Participant Information Statement (Supplement A).

Sample size

The sample calculated was based on the number of registered pharmacists in Australia in 2020 ($n = 32,777$) (Pharmacy Board of Australia AHPRA, 2020), with a 95% CI, an accepted margin of error of 7%, and the response distribution of 50%; generating a recommended sample size of 195 using an online sample size calculator (Maple Tech International LLC, 2023). This was in keeping with sizes of similar questionnaires of healthcare professionals in the literature and resourcing constraints related to the COVID-19 pandemic (Bawa et al., 2022; Benson et al., 2020; Karanges et al., 2018; Lakens, 2022). Calculator.net™ was the online sample size calculator utilised to calculate the study sample size (Maple Tech International LLC, 2023). It required a projected confidence level, population size, proportion and margin of error which together allowed the automatic calculation of the target sample size. The mathematical algorithm used in this calculation is shown below (Maple Tech International LLC, 2023).

$$\text{Unlimited population: } n = \frac{z^2 \hat{p}(1 - \hat{p})}{\varepsilon^2}$$

$$\text{Finite population: } n' = \frac{n}{1 + \frac{z^2 \hat{p}(1 - \hat{p})}{\varepsilon^2 N}}$$

where:

z is the z score

ε is the margin of error

N is the population size

p̂ is the population proportion

Results

Section 1: participant demographics

The questionnaire was completed by 223 eligible respondents (greater than the calculated sample size). As abovementioned, there were no incomplete responses. Respondents' demographics were summarised in [Table 1](#). The majority were female (69%, 155/223), with a range of practice experience between 1 and 49 years [$M = 10.3$, $SD = 11.1$], in various primary roles. Most (40%) respondents were from New South Wales. This closely emulated the overall demographic profile of Australia's pharmacist workforce, that is, a predominately female (63.1%) and younger workforce (38.3% aged 25–34 years) (Pharmacy Board of Australia AHPRA, 2020).

Section 2: general personal perspectives

Findings indicated that almost half of respondents ($n = 106$, 48%) believed that pharmacists have the right to CO ([Table 2](#)). Some (8%) identified that personal religious belief 'very much' shaped their decision-making in practice (i.e. religiosity), while the majority chose the 'not at all' option ([Table 1](#)). This was also reflected in the responses to the vignettes.

[Table 3](#) presents a series of Chi-square analyses assessing correlations between demographics, religious influence on practice (i.e. religiosity) and participants' responses across all four vignettes ([Tables 4–7](#)). Chi-square analyses indicated self-reported religiosity was described as 'very much', and had a statistically significant relationship with pharmacists' decision-making, whether that be to supply or not. This was demonstrated for Case-1: medical abortifacient ($p < 0.001$), Case-3: IVF for a same-sex couple ($p < 0.001$), and Case-4: VAD ($p < 0.001$).

On average, approximately 77% of participants agreed to supply the relevant medicine across the four vignettes proposed ([Figure 1](#)). The remainder 23% withheld access, with or without providing continuity of care.

Some respondents expressed strong disagreement with pharmacists choosing CO:

Religious zealotry has no place in healthcare! (**Ph29**)

[Table 2](#) shows 64% participants believed it is not ethically justifiable to enact CO if a patient is unable to access treatment. However, 9% of

Table 1. Demographic of participating registered pharmacists ($n = 223$).

Characteristics		<i>n</i>	%
Sex	Male	66	30
	Female	155	69
	I prefer not to answer	2	1
Age Range	≤ 24	27	12
	25–34	118	53
	35–44	42	19
	45–54	17	8
	55–64	16	7
	65 +	3	1
Primary Roles* (participants indicated multiple roles hence $n \neq 223$)	Community Pharmacists	161	N/A
	Hospital Pharmacists	59	N/A
	Industry	15	N/A
	Academia	20	N/A
	Professional organisations representatives	16	N/A
	/Government		
Degree Type	Other	13	N/A
	B. Pharm/Hons	192	86
	M. Pharm	21	10
	PhD	10	4
Years' experience	1–5 years	104	43
	6–10 years	51	23
	11–20 years	33	15
	21 + years	35	16
State of Practice	ACT	15	7
	NSW	89	40
	NT	8	3
	QLD	29	13
	SA	12	5
	TAS	13	6
	VIC	31	14
	WA	26	12
Extent religion shapes your decision making in practice.	Not at all	134	60
	Somewhat	71	32
	Very much so	18	8

participants disagreed, irrespective of inconvenience, compromise of safety, or possible harm. The remaining 27% selected the conditional option of 'only if', emphasising continuity of care in their free-text responses.

Only if the patient is directed to a location where the treatment is available
(Ph25)

Some highlighted the importance of choice of workplace:

If you have moral values which impact your practice, then you shouldn't put yourself in a position of exclusivity e.g. a pharmacist who objects to abortion should not work in an abortion clinic ... (Ph79)

Other participants claimed CO avoided harm to themselves:

Our first role is to do no harm, and that is also to ourselves ... (Ph140)

Table 2. Response rates to remaining questionnaire questions related to personal perspectives (non-vignette questions).

Questions	Response Options	No. of responses (n = 223) except *	%
Q8. What does conscientious objection mean to you?	I know what it is about	133	60
	I have a vague idea what it is about	72	32
	I don't know anything about it	18	8
Q9. Pharmacists should have the right to conscientious objection?	Agree	106	48
	Neither agree nor disagree	27	12
	Disagree	90	40
Q10. Is it ethically justifiable to C/O if it means your patient cannot get treatment?	Yes	20	9
	No	142	64
	Only If (+ comments)	61	27
Q15. If a pharmacist has the right to conscientious objection, in your opinion should they ensure continuity of care?	Yes	217	97
	No (+ comments)	6	3
*Q16. Which of the following best describes how you would practice 'continuity of care'? – (More than 1 option)"	Referring the patient to try another pharmacy	113	51
	Referring the patient back to their doctor	92	41
	Providing the patient with information/resources of alternative pharmacies they can successfully access treatment"	207	93
*Q17. Which of the following do you feel influences your views on conscientious objection? (More than 1 option)	Do No Harm	149	67
	Patient Autonomy	159	71
	Faith	46	21
	Professional & Legal frameworks	165	74
Q18. How open are you to changing your views on conscientious objection?	Not going to change	109	49
	May or may not change	47	21
	Open to change	67	30

Table 3. Chi Square analysis of demographics vs responses for each Vignette Case, using results from tables 4–7.

Characteristics	Chi Square			
	Case1 – Medical Abortifacient	Case2 – Emergency Contraceptive Pill	Case3 – IVF Surrogate to same-sex couple	Case4 - VAD
'Age'	13.36	12.46	5.71	17.35
'Sex'	0.5	6.4*	1.66	0.52
'Religion'	53.12 [#]	20.99	20.99 [#]	55.23 [#]
'Degree'	2.34	3	3	1.84

*p < 0.05, [#]p < 0.001.

Participants almost unanimously (97%) perceived continuity of care as a necessity (Table 2), especially in rural/remote settings (as indicated in the free-text responses).

As a rural pharmacist, I have real issues if people conscientiously object. (Ph68)

The minority who disagreed justified their reasoning with three concepts: *do no harm, patient responsibility* and *professional standards*.

Table 4. Response groups vs characteristics for Case 1.

Characteristic	Case 1: Medical Abortifacient			p-value ¹
	Do Not Supply, N = 32	Conditional Supply, N = 27	Supply, N = 164	
Age, n (%)				0.2
<24	1 (3.1%)	1 (3.7%)	25 (15%)	
25–34	21 (66%)	17 (63%)	80 (49%)	
35–44	8 (25%)	3 (11%)	31 (19%)	
45–54	0 (0%)	3 (11%)	14 (8.5%)	
55–64	2 (6.2%)	3 (11%)	11 (6.7%)	
65–74	0 (0%)	0 (0%)	3 (1.8%)	
Sex, n (%)				0.8
Female	21 (66%)	20 (74%)	113 (70%)	
Male	11 (34%)	7 (26%)	49 (30%)	
Unknown	0	0	2	
Degree, n (%)				0.6
B.Pharm/Hons	26 (81%)	23 (85%)	143 (87%)	
M.Pharm	5 (16%)	2 (7.4%)	14 (8.5%)	
PhD	1 (3.1%)	2 (7.4%)	7 (4.3%)	
Religion, n (%)				<0.001
Not At All	5 (16%)	13 (48%)	116 (71%)	
Somewhat	16 (50%)	13 (48%)	42 (26%)	
Very Much So	11 (34%)	1 (3.7%)	6 (3.7%)	
Working Years, Median (IQR)	6 (3, 12)	8 (4, 16)	6 (2, 13)	0.3

¹Statistical tests performed: Fisher's test; Kruskal-Wallis test.

Table 5. Response groups vs characteristics for Case 2.

Characteristic	Case 2: Emergency Contraceptive Pill (15 yo)			p-value ¹
	Do Not Supply, N = 17	Conditional Supply, N = 50	Supply, N = 156	
Age, n (%)				0.3
<24	4 (24%)	5 (10%)	18 (12%)	
25–34	10 (59%)	34 (68%)	74 (47%)	
35–44	2 (12%)	7 (14%)	33 (21%)	
45–54	0 (0%)	3 (6.0%)	14 (9.0%)	
55–64	1 (5.9%)	1 (2.0%)	14 (9.0%)	
65–74	0 (0%)	0 (0%)	3 (1.9%)	
Sex, n (%)				0.050
Female	14 (82%)	28 (56%)	112 (73%)	
Male	3 (18%)	22 (44%)	42 (27%)	
Unknown	0	0	2	
Degree, n (%)				0.7
B.Pharm/Hons	17 (100%)	42 (84%)	133 (85%)	
M.Pharm	0 (0%)	5 (10%)	16 (10%)	
PhD	0 (0%)	3 (6.0%)	7 (4.5%)	
Religion, n (%)				0.13
Not At All	8 (47%)	27 (54%)	99 (63%)	
Somewhat	5 (29%)	20 (40%)	46 (29%)	
Very Much So	4 (24%)	3 (6.0%)	11 (7.1%)	
Working Years, Median (IQR)	3 (1, 7)	4 (2, 9)	7 (3, 16)	0.032

¹Statistical tests performed: Fisher's test; Kruskal-Wallis test.

Table 6. Response groups vs characteristics for Case 3.

Characteristic	Case 3: IVF Surrogate to Same-sex Couple			p-value ¹
	Do Not Supply, N = 7	Conditional Supply, N = 9	Supply, N = 207	
Age, n (%)				>0.9
<24	0 (0%)	1 (11%)	26 (13%)	
25–34	6 (86%)	4 (44%)	108 (52%)	
35–44	1 (14%)	3 (33%)	38 (18%)	
45–54	0 (0%)	1 (11%)	16 (7.7%)	
55–64	0 (0%)	0 (0%)	16 (7.7%)	
65–74	0 (0%)	0 (0%)	3 (1.4%)	
Sex, n (%)				0.5
Female	5 (71%)	8 (89%)	141 (69%)	
Male	2 (29%)	1 (11%)	64 (31%)	
Unknown	0	0	2	
Degree, n (%)				0.7
B.Pharm/Hons	7 (100%)	8 (89%)	177 (86%)	
M.Pharm	0 (0%)	0 (0%)	21 (10%)	
PhD	0 (0%)	1 (11%)	9 (4.3%)	
Religion, n (%)				<0.001
Not At All	0 (0%)	3 (33%)	131 (63%)	
Somewhat	4 (57%)	4 (44%)	63 (30%)	
Very Much So	3 (43%)	2 (22%)	13 (6.3%)	
Working Years, Median (IQR)	6 (4, 10)	9 (3, 17)	6 (2, 13)	0.7

¹Statistical tests performed: Fisher’s test; Kruskal-Wallis test.

Table 7. Response groups vs characteristics for Case 4.

Characteristic	Case 4: Euthanasia			p-value ¹
	Do Not Supply, N = 27	Conditional Supply, N = 35	Supply, N = 161	
Age, n (%)				0.053
<24	1 (3.7%)	3 (8.6%)	23 (14%)	
25–34	22 (81%)	24 (69%)	72 (45%)	
35–44	3 (11%)	4 (11%)	35 (22%)	
45–54	0 (0%)	2 (5.7%)	15 (9.3%)	
55–64	1 (3.7%)	1 (2.9%)	14 (8.7%)	
65–74	0 (0%)	1 (2.9%)	2 (1.2%)	
Sex, n (%)				0.6
Female	19 (70%)	22 (63%)	113 (71%)	
Male	8 (30%)	13 (37%)	46 (29%)	
Unknown	0	0	2	
Degree, n (%)				0.3
B.Pharm/Hons	21 (78%)	33 (94%)	138 (86%)	
M.Pharm	5 (19%)	1 (2.9%)	15 (9.3%)	
PhD	1 (3.7%)	1 (2.9%)	8 (5.0%)	
Religion, n (%)				<0.001
Not At All	1 (3.7%)	18 (51%)	115 (71%)	
Somewhat	17 (63%)	14 (40%)	40 (25%)	
Very Much So	9 (33%)	3 (8.6%)	6 (3.7%)	
Working Years, Median (IQR)	4 (2, 9)	4 (3, 10)	7 (2, 16)	0.2

¹Statistical tests performed: Fisher’s test; Kruskal-Wallis test.

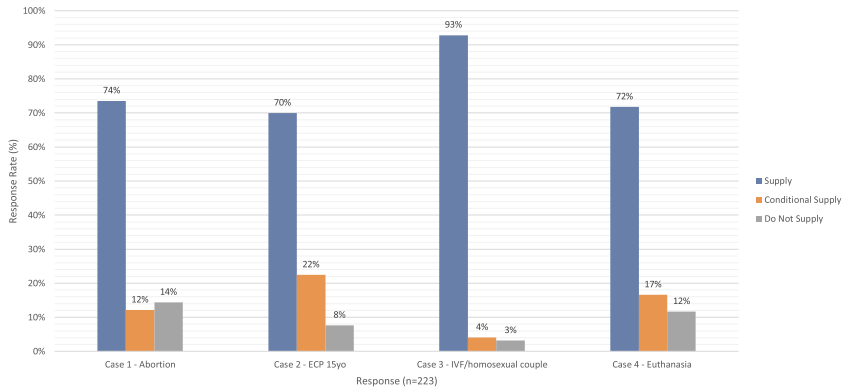


Figure 1. Responses to vignette cases ($n=223$).

Continuity of care is for improving health outcomes, not for terminating human lives (**Ph127**)

Patients should take their own responsibility into their own hands ... (Ph127)

Pharmacists should be held to a reasonable standard. Inconvenience to the patient should not be that standard (Ph74)

Section 3: vignettes

Thematic analysis of the qualitative data collected from these vignettes yielded three major themes:

1. The Role of the Pharmacist
2. Ethical Considerations
3. Training/Guidance

These emergent themes formulated the primary drivers, which were extrapolated into a driver diagram. (Figure 2) The primary drivers were triangulated from secondary drivers from the thematic analysis of open-ended responses to each vignette. To clarify this process, we present results of each case before categorising into primary and secondary drivers.

Figures 3–5 provide the evidence in quotes for each driver in Figure 2.

Case 1 – medical abortifacient

Supply:

For Case-1, 74% opted to supply (Figure 1)

It is a legal therapy, prescribed by a practitioner acting lawfully. It'd be unprofessional not to supply (**Ph120**)

Some participants indicated concerns about employers.

I'm sure pharmacy-owners would object if you refused a sale based on CO. Non-proprietors don't have a choice. **(Ph84)**

Conditional Supply:

Some (12%) were concerned about *safety and patient support* around termination, therefore, would only provide conditional supply. These concerns underpinned the secondary driver of 'patient support' in the driver scheme.

My hesitation would be that in the rural area, we don't have services to deliver high-risk/complicated births **(Ph68)**

Other participants differentiated between medical and social utility (sub-driver 'life, death and personhood'), highlighting a conditional supply based on medical necessity where the mother's life was at risk. Some based their submission on their religion, introducing the secondary driver 'religious based morality'.

I would only supply the medication if there was a clinical danger to the mother or child. **(Ph79)**

No supply:

For Case 1, 14% chose not to supply. Religiosity was not the only reason for their response. Some indicated their objection was based on the concept 'do no harm'. This was the foundation of the secondary driver: 'professional ethics (respect/autonomy/do no harm)' as well as the sub-driver of 'concept of the human person'.

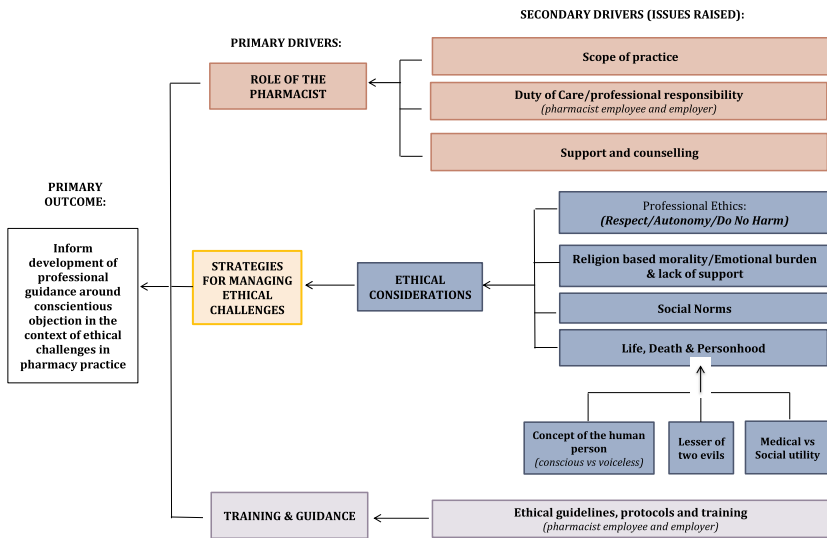


Figure 2. Driver Diagram.

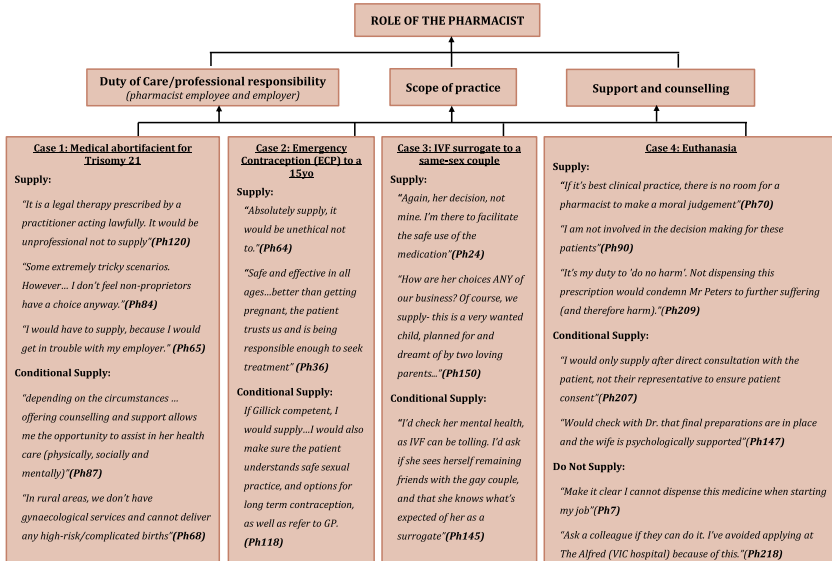


Figure 3. Example quotes for driver 1.

I won't supply because terminating an 18w foetus is arguably killing a patient with no voice (Ph85)

Some would not supply based on the need for registration and further training on MS-2-Step®. This concept was coded into the primary-driver of 'training and guidance'.

I don't feel I know enough about the drug and the bigger picture of the situation. It's almost beyond my scope (Ph3)

Case 2 – emergency contraception (ECP)

Supply:

ECP has been available for legal supply since 1999 (Munro et al., 2015), yet still posed some ethical challenges for some. Most participants chose to supply. They highlighted the importance of respect for autonomy in women's health, which was coded in the secondary driver of 'Professional Ethics (Respect/Autonomy/Do no harm)'.

It is her body and her right to make an informed decision. It'd also be an ideal time to counsel on contraception (Ph87)

Many identified that as a legally valid and safe medication, it would be unethical not to supply the ECP. This is in keeping with the secondary drivers of 'scope of practice' and 'duty of care/professional responsibility'.

Absolutely supply, it would be unethical not to. (Ph64)

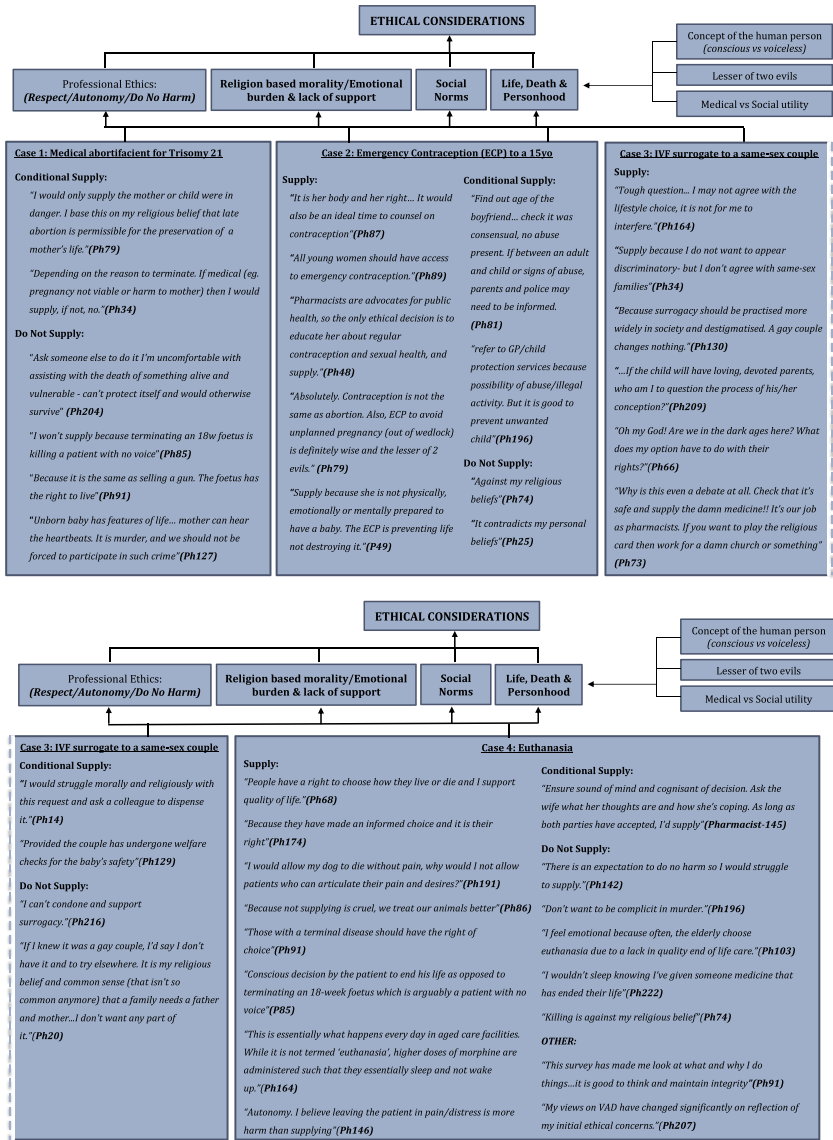


Figure 4. Example quotes for driver 2.

Some participants who indicated a high level of religiosity, justified their choice to supply the ECP in Case 3 but not the abortifacient in Case 1, by distinguishing between ECP, contraception and termination. This is a key example of the secondary driver of 'religion base morality/emotional burden and lack of support'.

I do not see the morning-after pill as destroying life, it's preventing a life. (Ph49)

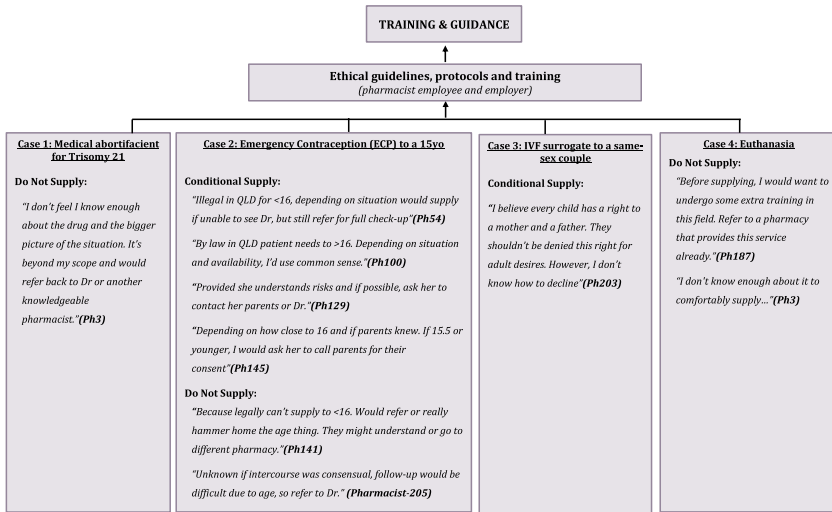


Figure 5. Example quotes for driver 3.

Conditional Supply:

Despite being a regular 'Pharmacist Only' product, the ECP had the highest level of conditional supply (22%). Most had safety concerns for the patient who was a minor. This was primarily based on the legal age of consent (Australian Government Institute of Family Studies, updated June 2017). This underpinned the secondary driver of 'Professional Ethics (Respect/Autonomy/do no harm)' and 'support and counselling'.

Check first for consent and no abuse present. If between an adult and child, or signs of abuse, parents and police need to be informed. **(Ph196)**

Interpretation of the law around underage sexual intercourse is complex, and supplying the ECP varies between states, which was apparent in the responses.

By law, a patient needs to be 16 for supply. But depending on situation and availability, common sense prevails. **(Ph100)**

Referral was a recurrent caveat to ensure appropriate support:

... follow-up would be difficult due to her age. So, refer. **(Ph129)**

Do not supply:

A minority chose not to supply ECP, indicating it violated their religious beliefs. This further supported the secondary driver of 'religion-based morality/emotional burden and lack of support' and 'Professional Ethics: (Respect/Autonomy/Do No Harm)'.

Against my religious beliefs **(Ph74)**

Other participants would not supply purely based on concern for safety and risk of abuse or legal frameworks, which varied from state to state.

It's unknown whether the intercourse was consensual or not. **(Ph205)**

This showcased the recurrent theme of 'training and guidance'.

Case3 – IVF

Supply:

Most pharmacists felt this was the least ethically concerning case, citing the autonomy of the surrogate woman and the same-sex couple's rights. This was coded to secondary drivers of 'Professional Ethics: (Respect/Autonomy/Do No Harm)' and 'scope of practice'.

Again, her decision, not mine. I'm there to facilitate the safe use of the medication **(Ph24)**

Those who held a personal objection yet supplied, indicated that it didn't implicate anyone and was not a matter of life or death.

While I may not agree with the lifestyle choice, it is not for me to interfere. **(Ph164)**

As societal norms have progressed, pharmacists' views seem to have evolved with the times to incorporate inclusivity and anti-discrimination, and the secondary driver of 'social norms' was identified.

Society now recognises families of all shapes and sizes. Who am I to question the process of his/her conception? **(Ph209)**

Conditional Supply:

Not many participants had conditions to supply of Clomifene. The main condition stemmed from religion, which would lead to a referral for access. This shaped the secondary-driver of 'religion-based morality/emotional burden and lack of support'.

I would struggle morally and religiously with this request. I might ask a colleague to dispense the medications. **(Ph14)**

Others wanted to ensure no harm would occur to the surrogate and the baby. This was in keeping with the secondary driver of 'Professional Ethics: (Respect/Autonomy/Do No Harm)'.

Provided the couple has had welfare checks to ensure the baby will be raised in a healthy environment **(Ph129)**

Do Not Supply:

Few participants had any strong objections for which they would deny supply (3%). Only one held a moral objection to the notion of surrogacy.

I can't condone and support surrogacy. **(Ph216)**

These participants refused supply based on religious objections to homosexuality. This supported the secondary-driver of 'religion-based morality/emotional burden and lack of support'.

It is my religious belief ... that a family needs a father and mother. If they wish to differ, they can go elsewhere, I don't want any part of it. **(Ph20)**

Case 4 – voluntary assisted dying (VAD)*Supply:*

Majority of participants reported they favoured dispensing a prescription for VAD for stage 4 pancreatic cancer. The primary reason for supply was respect for patient autonomy, which encompasses the secondary driver of 'Professional Ethics: (Respect/Autonomy/Do No Harm)'.

Because they have made an informed choice, and it is their legal right **(Ph174)**

Many compared the right to die for humans, with that provided for pets. This underpinned the secondary driver of 'Life, Death & Personhood' and its sub-drivers 'Concept of the human person' and 'Lesser of two evils'.

Not supplying is cruel. We treat our animals better than our brothers and sisters **(Ph86)**

Some refused supply in Case-1, but had contrasting views for Case-4, showcasing the theme and secondary-driver of 'religion-based morality/emotional burden and lack of support'. These participants distinguished between the conscious choice of an adult versus the lack of agency of a foetus.

I believe those with a terminal disease should have the right of choice **(Ph91)**

Participants identified the need to 'do no harm' by reducing patient suffering. This reinforced the secondary drivers of 'scope of practice' and 'Professional Ethics: (Respect/Autonomy/Do No Harm)' but from a different perspective.

As a pharmacist, it is my duty to 'do no harm'. Not dispensing this prescription would condemn Mr Peters to further suffering (and therefore harm). **(Ph209)**

Notably, pharmacists also identified the responsibility to respect boundaries of scope of practice.

If it's best clinical practice, there is no room for a pharmacist to make a moral judgement **(Ph70)**

Conditional Supply:

Those who chose to provide conditional supply (17%), did so to preserve patient autonomy and ascertain their intentions, highlighting the recurrent secondary driver of 'Professional Ethics: (Respect/Autonomy/Do No Harm)'.

I would only supply after direct consultation with the patient, not their representative, otherwise you cannot ascertain patient consent **(Ph207)**

Concern for patient safety, and the well-being of his carer/wife, were identified as issues to be addressed and supported before supply.

I'd ensure he's still sound of mind and cognisant of his decision. I'd ask the wife what her thoughts are and how she's dealing with it **(Ph145)**

Do Not Supply:

The second-largest proportion (12%) of 'do not supply' responses was in this scenario. Reasons not to supply were consistent with existing literature (Isaac et al., 2019), and encompassed the secondary-drivers of 'Professional Ethics: (Respect/Autonomy/Do No Harm)' and "Religion based morality/Emotional burden and lack of support'.

There is an expectation to do no harm, so I would struggle to supply something that does harm. **(Ph142)**

For some, the magnitude of ending another person's life, was emotionally burdening.

I won't be able to sleep knowing I've given someone a medicine that has ended their life **(Ph222)**

For many, religious belief was the sole reason to object.

Against my religious belief, killing a person **(Ph74)**

Some respondents were aware of the dilemma CO may cause, and indicated their conscious insight around job selection and employment choices.

Make it clear I cannot dispense this medicine when starting my job **(Ph7)**

Lack of training was also a reason for non-supply. This fortified the theme of 'training and guidance' as well as secondary driver 'ethical guidelines, protocols and training'.

I don't know enough about it to comfortably supply ... **(Ph3)**

For many, this study encouraged self-reflection and evaluation of the reasons behind their decision-making and thought processes, whether for or against.

This questionnaire has made me look at what and why I do what I do ... it is good to maintain integrity **(Ph91)**

My views on VAD have changed significantly on reflection of my initial ethical concerns. (Ph207)

Discussion

Statement of principal findings and comparison to existing literature

This exploratory study identified that most pharmacist participants, when presented with controversial and ethically challenging clinical situations, would supply medicines, or do so irrespective of their personal beliefs. However, findings also indicated that there remained significant minorities who reported they would conscientiously object in several contexts, at times regardless of implications to patients. Principal findings of this study were three primary-drivers (Figure 2) that shed light on the salient concerns of participating pharmacists around CO. These drivers were: the need to clarify the role of the pharmacists, consider the ethical challenges they may face, and provide clear guidelines on how CO can be managed safely.

DRIVER 1: the role of the pharmacist

An interesting perspective expressed by some, was regarding the relationship between employer and employee pharmacists, and the issue of practicing with professional autonomy (Blanks Hindman, 1999). This was also mirrored in a 2020 study, which identified the difference in agency between junior doctors and their senior counterparts, where there may be a compromise in moral integrity by participating/accepting, or compromise career-trajectory by objecting (McDougall et al., 2022). Having clear professional protocols/guidelines to follow would enable CO to be enacted safely, without discrimination to the objector.

There is also a professional responsibility/accountability for patient care. There is an innate power imbalance associated with being a healthcare professional, who has an expert level of health literacy and education. According to Shanawani H, the challenge of CO amongst healthcare professionals is the 'monopoly of knowledge, skills, and resources' (Shanawani, 2016) that may impact patient care. The most reasonable solution could be by providing an extension of the conscience clause with a step-by-step protocol, which according to Hanlon et al. would allow for 'the efficient provision of the pharmaceutical service, whilst at the same time respecting the personal beliefs of those who object' (Hanlon et al., 2000).

Driver 2: ethical considerations

For some, the vignettes/cases generated a multitude of difficult ethical dilemmas between principles of 'respect for patient autonomy', 'beneficence',

'justice' and 'do no harm'. These dilemmas would possibly be best resolved with clear guidelines and standards of practice.

Non-denominational religiosity was a key ethical challenge that had a significant influence on participants' decision-making against supply of the abortifacient, Clomiphene and VAD, as indicated in the findings. This is similar to existing literature (Davidson et al., 2010), indicating certain religious affiliations significantly predicted pharmacists' willingness to dispense medicines that evoke CO. This study, however, was more robust with more focus on the influence of religiosity on professional practice rather than identifying the views of individuals from specific religious denominations. This point highlighted the need to manage the general impact of religiosity on professional reasoning and potentially on patient care.

Religion-based reasoning was also influenced by the degree of harm perceived to be associated with dispensing CO-evoking medicines. Findings indicated a greater proportion of refusal-to-supply was for the abortifacient and VAD, both of which were deemed too consequential, resulting in the death of a human entity. These findings shaped the secondary drivers: *life and death, human personhood, the lesser of two evils* and *medical versus social utility*. Ethically and medico-legally, the definition of when the human person begins to exist is not without contention, with varying termination laws between countries and states. In Australia, abortions are legal; however, each state and territory has set different thresholds for termination, with a maximum of 24 weeks gestation or, in some circumstances, more if approved by two physicians (Willis, 2019). For many participants who chose not to supply, abortion remained a topic of great contention and moral discomfort. These issues highlighted that despite the conundrum of life and death that will always baffle human beings, they also indicated the need for professional guidance/protocol relating to duties of healthcare providers towards patient care and safety in the case of CO.

Interestingly, findings indicated greater objection to supplying the abortifacient (Case 1) than for the euthanistic (Case 4). Some pharmacists changed their CO between the two cases, with the reasoning that euthanasia is a conscious decision by an adult patient – as opposed to terminating an 18-week foetus, considered a person with no voice. Intriguingly the same participants who objected to the cases of life and death were not as objecting in other scenarios, which may be attributed to the power of social norms and relativity. For example, the acceptance from most participants for IVF surrogacy for a same-sex couple was at least in part influenced by a shift in social norms. This same social acceptance and shift in societal norms may also gradually evolve for bioethical issues concerning life and death in the future, especially as practices of VAD increase around the world. However, there still remains the issue of patient care which may be compromised without firm, clear guidelines for professional practice.

Driver 3: training and guidance

The most significant emergent theme and primary-driver from this study was the need for training and guidance about CO for pharmacist-employers and employees. There was also the misguided understanding of current legislation and/or principles of Codes of Ethics. For example, the provision of the ECP had the highest levels of conditional supply, because of misguided understanding of legal requirements around supply. This was previously demonstrated in an Australian simulation-study, where some pharmacists' were over-reliant on outdated, non-mandatory, patient-checklists (Schneider et al., 2013; Scully, 2020) Some pharmacies in Canada and Switzerland were also found to rely on outdated patient-checklists for provision of non-prescription emergency contraception (Arnet et al., 2009; Soon et al., 2004). Updating knowledge was clearly indicated.

While the request for training and guidance for emerging practices/services like VAD (Isaac et al., 2019) was clear, protocols and guidance around what should be done at a time when one chooses to enact CO are non-existent, consequently placing not only the consumer at risk of lack of access, but also places the objector at risk of moral conflict, moral injury, workplace pressures and ostracisation. A clear validated framework also has the potential capacity to simultaneously address the other two drivers of 'the role of the pharmacists' and 'ethical considerations'.

Strengths and limitations

Limitations

Given this was a cross sectional questionnaire, a number of limitations may have affected the generalisability of the results. First, common to all questionnaires' methodology, completion of the study may be subject to respondent bias, where only motivated eligible participants respond. Thus, the results may have been influenced by limited responses from dis-engaged participants. Additionally, the COVID-19 pandemic impacted recruiting pharmacists and restricted access to the questionnaire solely to an online format. This recruitment strategy may have also biased results by appealing to younger pharmacists who were technologically adept. We attempted to address this by advertising the questionnaire on a range of different platforms and when compared with studies conducted of other healthcare professionals (Blaschke et al., 2019; Card, 2012; Chavkin et al., 2013; Combs et al., 2011; Darzé & Barroso-Júnior, 2018; Dobrowolska et al., 2020; Fujioka et al., 2018; Hagen et al., 2011; Keogh et al., 2019; Lamb et al., 2019; Lawrence, 2009; Lawrence & Curlin, 2009; Nordstrand et al., 2014; Strickland, 2012), our findings were meaningful and not in stark contrast or variability.

Although the sample size for this study met above the calculated target sample size of 195, the results of this study remain exploratory and are by no means generalisable to the entire Australia pharmacy profession. During the Covid pandemic pharmacists were under considerable stress with rapidly changing and evolving roles, which may have affected the potential number of participants recruited.

Strengths

This is the first vignette-based study exploring a relatively large number of Australian pharmacists' perspectives on CO. The study revealed valuable insight into the perspectives and rationale underpinning decision-making in the domain of CO in healthcare, which can inform future research.

This study also provided valuable insight into the nature of individual pharmacists' responses which can have direct impact on patient care and the future of pharmacy practice. Therefore, each response, irrespective of its generalisability, was meaningful in that its patient-related impact, would be significant for each individual patient. This aligns with findings from US studies (French et al., 2016; Green & Thorogood, 2018; Holt et al., 2017; Homaifar et al., 2017), and a recent paper on CO in women's health in Australia (Keogh et al., 2019).

Conclusion and future research

This study investigated Australian pharmacists' perspectives regarding CO. Although most participants would not exercise CO in most cases, for the minority who chose to exercise CO, their reasons and approaches varied. For some, it was for religious values; for others, it was mostly due to the ethical tension between principles of 'do no harm' and 'respect for patient autonomy'. These findings highlighted the need for further research and development of a professional framework to guide pharmacists who conscientiously object and their employers, about the processes needed to ensure patient safety, access, and continuity of care.

With a plethora of new technologies and healthcare legislations emerging around the world, it is important that professional organisations consider a universally formulated guideline that can be readily adapted to manage CO in practice. Findings of this study can provide a platform for future, more expanded research into CO in pharmacy. They may also help inform the development of new healthcare standard operating procedures around CO to guide pharmacists and their employers in navigating ethically challenging scenarios relating to CO.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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