Using Q methodology to explore mental health nurses' knowledge and skills to use recovery focused care to reduce aggression in acute mental health settings

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ABSTRACT

When nurses practice recovery-focused care, they contribute positively to the consumer's mental health recovery journey and empower the person to be actively engaged in the management of their illness. While using recovery-focused care is endorsed in mental health policy, many health professionals remain uncertain about its application with consumers who have a risk for aggression during their admission to an acute mental health inpatient setting. This paper reports on Australian research using Q methodology that examined the knowledge and skill components of recovery-focused care that nurses use to reduce the risk for aggression. The data from forty mental health nurses revealed five factors that when implemented as part of routine practice improved the recovery outcomes for consumers with risk of aggression in the acute mental health settings. These factors were: I) Acknowledge the consumers' experience of hospitalisation; II) Reassure consumers that are going through a difficult time; III) Interact to explore the impact of the consumer's negative lived experiences; IV) Support co-production to reduce triggers for aggression; V) Encourage and support consumers to take ownership of their recovery journey. These findings provide nurses with a pragmatic approach to use recovery-focused care for consumers with risk for aggression and contribute positively to the consumers' personal recovery.

INTRODUCTION AND BACKGROUND

The paradigm of mental health recovery is well-embedded in mental health policy and care directives. For example, Australian national and state mental health policies and operational procedures provide health professionals with guidelines for supporting people with a mental illness (hereafter refers to as consumers) to achieve personal recovery goals (Commonwealth of Australia, 2013, 2019; Western Australian Mental Health Commission, 2010, 2019). Mental health recovery is a personal journey where consumers develop strengths, skills, hope, and autonomy to live productive and meaningful lives even when they may still be experiencing symptoms of their illness (Le Boutillier, Chevalier, et al., 2015a; McKeown et al., 2016; Slade et al., 2014). While every individual's recovery journey is unique, nurses working in the area of mental health (hereafter referred to as nurses) who use recovery-focused care can contribute positively to the consumer's self-growth (Aston & Coffey, 2012; Reid et al., 2018; Slade et al., 2014). Recovery-focused care places emphasis on nurses using strategies with consumers that facilitate, for example, self-determination and shared decision-making to motivate and support the person to develop and utilise their

existing strengths and potential for self-growth (Commonwealth of Australia, 2019; Le Boutillier, Chevalier, et al., 2015b; Reid et al., 2018; Slade & Longden, 2015).

Aggression (both physical and verbal) remains a common critical incident across all acute mental health settings and poses significant challenges for nurses (Stubbs & Dickens, 2008). As nurses have a continued presence in the clinical setting, they are often the frontline professionals called upon to de-escalate potentially aggressive situations (Santangelo et al., 2018). Most nurses view assessing the consumer's level of risks and de-escalating difficult situations as a critical aspect of their work to provide a safe and therapeutic health care environment (Jeffery & Fuller, 2016; Maguire et al., 2017). First-line interventions used by nurses to reduce the potential for aggression include effective, clear interpersonal communication, encouraging consumers to utilise strategies such as relaxation and anger management techniques, and to self-regulate their behaviour and respond appropriately to potential triggers for aggression. These first line strategies when used effectively also lessen the potential for the use of more restrictive interventions such as medications, physical restraints or in some situations seclusion if the person's risk for aggression is a threat to themselves or others (Muir-Cochrane et al., 2015; Price & Baker, 2012; Pulsford et al., 2013; Vargas et al., 2015). While there is an expectation for nurses to use recovery-focused care in the acute mental health settings, nurses' shared perspectives of how this model of care is used in higher risk clinical situations remains relatively unexplored (Waldemar et al., 2019). As such, there is currently a lack of research evidence to develop an accurate and consistent understanding of how the mental health nursing workforce translates recovery-focused care to reduce aggression in the acute mental health settings (Coffey et al., 2019). To address this gap in the existing literature, this article reports the findings of research conducted with nurses to explore this issue.

METHOD

Ethics approval to conduct the research was obtained from Curtin University HR132/2015. The research method chosen for this study was Q methodology, as it combines both qualitative and quantitative approaches into a single study to statistically examine the subjective elements for example beliefs, attitudes, knowledge and skills that influence people's responses in a given situation (Brown, 1996; Dennis, 1986; Lim et al., 2020; Yang, 2016). Q methodology was chosen for this study as it enables nurses to share their views of their knowledge and skills of using recovery-focused care without being unduly influenced by the view of the researchers (McKeown et al., 1999). In health care, Q methdology has

been used to explore nurses' shared views to achieve insight into factors that can influence clinical practices (Jueng et al., 2017), experiences of nursing education and training approaches (Ha, 2014, 2018; Paige, 2014), nursing shift work (Ha, 2015).

There are five progressive steps in Q methodology: 1) set up the Q sorting instrument; 2) recruitment of participants; 3) Q sorting; 4) factor analysis; and 5) factor interpretation (Shinebourne, 2009; Simons, 2013).

Steps taken in this study

1) Set up the Q sorting instrument

The first step of Q methodology involved using qualitative approaches to prepare a list of statements about recovery-focused care and aggression for use in setting up the Q sorting instrument. The initial list of statements is known as the concourse in Q methodology. In this study, statements were generated using a scoping review of the literature (Lim et al., 2017), interviews with mental health nurses (Lim et al., 2019a), and consumers (Lim et al., 2019b) regarding how recovery-focused care could reduce aggression in the acute mental health setting. After that, 40 statements that best represented the knowledge and skill components of recovery-focused care that were identified as critical for reducing the potential for aggression were selected from the concourse. The research team checked to ensure there was an equal number of positive and negative statements to form the Q set. The Q set was uploaded onto FlashQ (Hackert & Braehler, 2007), a computer software specifically designed to set up the Q sorting instrument for participants to perform the Q sorting in step three.

2) Recruitment of participants

In step two of Q methodology, purposive sampling was utilised to recruit participants with extensive knowledge and experience in the area to sort the statements according to their level of agreement or importance of the statement. Members of the Australian College of Mental Health Nurses (ACMHN) from all states and territories in Australia participated in the research through an invitation sent to them via the ACMHN weekly member e-newsletter (see Table 1 for the demographic data of the participants). The invitation contained information about the study and what was expected of them if they agreed to participate. A link to the Q sorting instrument was included.

Table 1.
Demographic data of the participants

Demographic data of the participants (n= 40)	
Gender	**Number of participants:**
Male	12
Female	28
Age group	
20 to 29 years	5
30 to 39 years	8
40 to 49 years	12
50 to 59 years	11
60 years or older	4
Role	
Enrolled nurse	2
Registered nurse	22
Clinical nurse	3
Nurse specialist/manager	9
Others:	
Nurse educator	3
Clinical nurse consultant	1
Setting working in	
Acute mental health inpatient	28
Forensic mental health inpatient	2
Mental health rehabilitation inpatient	1
Community mental health	6
Others:	
Mental health education	3
Years of nursing	
1 to 3 years	5
4 to 6 years	7
7 to 9 years	2
10 years or more	26
Highest nursing qualification	
Certificate	3
Diploma	9
Bachelor	21
Masters	6
Doctorate	1

3) Q sorting

The third step of Q methodology required participants to sort the Q set provided onto a Q sort grid (Figure 1). The purpose of having the quasi-normal Q sort grid is to force the participants to sort their responses into a normal distribution (Jang & Wang, 2017; Paige, 2014). Having the participants submitting their responses in a 'free-forced' distribution reduced confounding the data during data analysis (Akhtar-Danesh et al., 2008; McKeown & Thomas, 2013). While participants are forcibly sorting the statements into the sorting grid,

their arrangements are still based on the subjective opinion of participants, hence uniquely representative of each participant's views (Paige, 2014).

Figure 1. An example of the Q sort grid
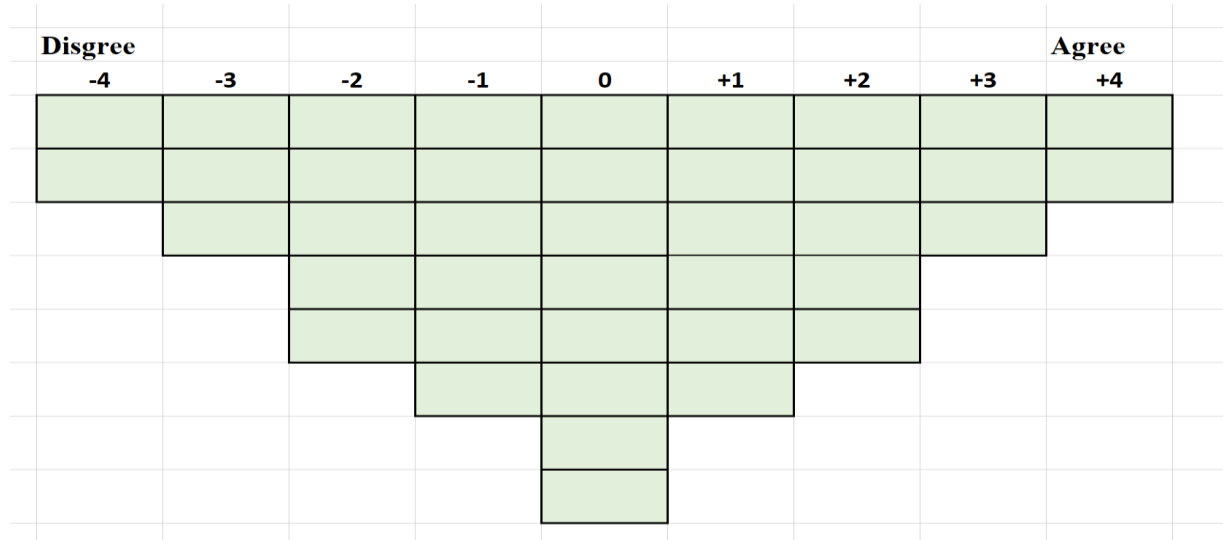
Participants were instructed to sort the statements they most disagreed with to the left (-4), the statements that they agreed with to the right (+4) and the statements that they had a neutral stance towards into the remaining boxes of the center of Q sort table (Shinebourne, 2009).

4) Factor analysis

In step four, statistical factor analysis of participants' responses on their Q sorts was performed using the SPSS Principle Component Analysis with a varimax method of orthogonal rotation (Watts & Stenner, 2012b). On the SPSS spreadsheet, participants were entered as 'variable' and their responses entered as 'sample', and a "by-person" factor analysis was performed to correlate the participants' Q sorts with one another (Gabor, 2013; Watts & Stenner, 2012a; Webler et al., 2009). Factors that emerged from the analysis with a factor loading score of an eigenvalue (EV) greater than 1.0 were considered as statistically significant to represent the participants' correlated responses, and they were analysed using the SPSS scree plot analysis to determine the final number of factors to be retained for interpretation. Lastly, the scores of the statements loaded onto each of the retained factors were used to create factor arrays, which allowed researchers to generate the Q sorts of the retained factors (Watts & Stenner, 2012b). Statements scored ±4 and ±3 in a retained factor,

and statements that carried a score that indicated that it is more important to a particular retained factor when compared to its importance to the rest of the retained factors were included for factor interpretation (Watts & Stenner, 2012b).

5) Factor interpretation

Finally, in step five, statements that were identified as important to the retained factor were compared and contrasted to look for patterns of similarities and differences (Paige, 2015). For example, statements with scores ±4 or ±3 were considered as most significant to the factor and were used for comparisons with statements with lower scores to build categories. The built categories were then compared and contrasted with all the individual statements which contributed to the particular factor to look for patterns of similarities and differences, and this interpretive process guided the writing up of the findings.

FINDING

Results

Forty nurses participated in the research, which was deemed sufficient as Q methodology required only 20 to 40 participants to perform a factor analysis to reveal patterns in participants' thoughts and opinions (Akhtar-Danesh et al., 2008; Valenta & Wigger, 1997). The 40 statements which formed the Q set, retained factors, and their z-scores are presented in Table 2.

Table 2.
40 statements which formed the Q set, retained factors, and their z-scores

Q set	z-score				
Positive statements of the knowledge component of recovery-focused care to reduce aggression	**Factor I**	**Factor II**	**Factor III**	**Factor IV**	**Factor V**
1. Nurses are knowledgeable to collaborate with consumers in the hospital	1.62329	-0.48712	-0.72333	-0.46177	0.15318
2. Nurses are familiar with how the consumer's past and present trauma can impact on their level of risk for aggression	-0.33871	-0.55036	1.70625	-0.13215	-0.66841
3. Consumers are more likely to become aggressive when they have unmet needs	1.67547	-0.92002	-0.04987	1.17533	-1.82352
4. Recovery-focused care is useful to reduce the impact of the consumer's static (historical) risks for aggression	0.5795	1.69405	0.17815	0.41803	-0.56411
5. Aggression can be caused by the disruption to the consumer's familiar routine or lifestyle in the hospital	0.66153	-0.47772	0.5055	-1.3795	1.28808
6. It is important to get to know the consumer to reduce their level of risk for aggression	1.15472	-0.04665	1.0561	-1.24696	-0.11495
7. Nurses can support consumers to reflect and learn how to self-manage their behaviour	0.16586	0.74493	1.07389	-0.37838	0.89669
8. Nurses who explored the consumer's lived experience know their reason for the aggression	-0.40265	0.05488	0.8817	1.19082	1.3129
9. Validating the consumer's feelings of being admitted to hospital can reduce their level of risk for aggression	-0.02695	1.05283	0.00205	0.16493	1.38934
10. Little gestures of care are important to reduce aggression	1.13746	-0.55536	0.9257	0.06838	0.43079
Negative statements of the knowledge component of recovery-focused care to reduce aggression					
11. It is challenging to empower consumers to self-manage their level of risk for aggression	-1.31321	-1.65982	1.33949	1.91867	1.45902
12. Facilitating recovery-focused care is not suitable for a person who is under the influence of drug and alcohol or acute psychiatric symptoms	-0.51003	-1.32234	0.11137	-1.46066	-0.11242
13. Using medications is more effective than using interpersonal interventions to reduce aggression	-0.50685	-0.45876	0.09641	0.27748	-0.78935
14. Consumers who are aggressive are unlikely to collaborate care with nurses	-0.48853	-0.5957	-0.61659	0.975	-0.43149

15. It is not nurses' responsibility to support consumers to make adjustment to their familiar lifestyle and daily routines in the hospital	-0.12711	-0.23458	-1.18758	-0.98261	-1.47099
16. Recovery-focused care is not suitable for acute mental health settings	-0.37793	-1.29205	-0.02418	-1.18414	-1.01455
17. Consumers who have a higher risk for aggression should not be involved in their own care	-1.34534	-0.5661	-0.01156	-0.02379	-0.77503
18. It is difficult to collaborate care with consumers who have a higher risk for aggression	0.08064	-1.99881	0.25743	1.30217	-0.98859
19. Consumers who have a higher risk for aggression do not want to establish therapeutic alliance with nurses	-0.72577	-0.29619	-1.80389	0.3271	-0.44685
20. Dysregulated behaviour is aggression regardless of their trigger	-0.63163	-0.86151	-0.29882	0.94592	-0.16506
Positive statements of the skill component of recovery-focused care to reduce aggression					
21. It is important to explore the impact of the consumer's personal and mental health crisis on their level of risk for aggression	-0.03681	1.4123	0.58139	0.87351	-0.794
22. Nurses can assess the consumer's past and present trauma to determine their level of risk for aggression	1.13499	-0.21017	2.10944	-1.18003	-0.43629
23. It is a common nursing practice to involve consumers in their own treatment and care during the acute phase of their mental illness	-0.70609	2.36825	-0.13886	-0.18365	-0.97093
24. Provide positive feedback can support consumers to self-manage their risk for aggression	0.71897	0.41693	0.39315	0.48014	0.35265
25. Meeting the consumer's personal needs is an effective way to reduce aggression in the hospital	1.88747	0.19921	-1.88019	0.40326	0.27503
26. Supporting consumers to identify their coping mechanisms is effective to reduce aggression	0.17687	0.46032	0.96008	0.10036	2.34384
27. An aggressive incident is a learning opportunity for the consumers to learn about their strengths and weaknesses	0.936	1.15746	-1.47127	0.24068	0.04004
28. The use of positive communication skills can support consumers to self-manage their behaviour	1.71519	-0.30029	0.84936	0.02041	0.17661
29. Using therapeutic communication to reduce aggression can support consumers to re-evaluate their own strengths and abilities during a crisis	1.68546	1.1009	-1.29727	1.5076	0.18531
30. Providing positive reinforcements can encourage consumers to self-manage their level of risk for aggression	-0.12887	1.20343	1.31243	1.02916	0.48265

Negative statements of the skills component of recovery-focused care to reduce aggression					
31. It is difficult to assess the impact of the consumer's personal issues on their level of risk for aggression	-1.028	0.4017	0.14026	0.16483	-0.50995
32. Education and training do not prepare nurses to support consumers to self-regulate their level of risk for aggression	0.59633	-0.83947	-0.56993	-1.85204	-0.32635
33. Nurses are not equipped to talk to consumers about their risk for aggression	-1.31082	1.15526	0.51191	-1.08775	-1.09935
34. Nurses do not understand how trauma-informed care can reduce consumer's risk for aggression	-1.17691	1.50663	-0.4343	-1.12249	-0.89761
35. Nurses are not confident to communicate therapeutically with consumers who have a high risk for aggression	-1.76514	1.36228	0.44725	-0.59748	0.29754
36. There is no information for consumers to cope with their level of distress in the hospital	-0.11902	0.17936	-1.36658	1.34701	0.45077
37. Using physical and chemical interventions is necessary to reduce aggression	-1.44063	-0.95249	-0.08652	1.58454	-1.01079
38. Education and training do not equip nurses with effective communication skills to reduce aggression	0.37362	-0.467	-0.41058	-1.13136	-0.25015
39. There is no intervention to support consumers to learn effective strategies to self-manage their risk for aggression	-1.35774	-0.6515	-2.20522	-0.75416	2.60837
40. There is no opportunity in the hospital to coach consumers to develop effective strategies to reduce aggression	-0.43864	-0.72671	-0.86279	-1.35642	1.51794

The participants comprised 38 registered nurses (95.0%) and two enrolled nurses (5.0%). Most participants were working in acute mental health inpatient settings (75.0%) and had ±5-10 or more years of experience in nursing (85.0%). The analysis of their Q sorts yielded nine factors with an eigenvalue (EV) of greater than 1.0 (1.0 to 17.8). Typically, all factors with EV of greater than 1.0 are retained for factor interpretation in studies using R methodology (Akhtar-Danesh & Mirza, 2017; Watts & Stenner, 2012a), or that only EVs that contributed to the gradient before the sharp bend of the scree plot's slope are retained (Lim et al., 2020). However, factors that are eliminated based on the scree plot analysis can also be retained in Q methodology if the researchers considered them to be theoretically or substantively important to the study (Dziopa & Ahern, 2011; Lim et al., 2020).

Five factors were retained in this study and accounted for 66.4% of the variances that described the participants' responses about the critical knowledge and skills components of recovery-focused care that were important to reduce the potential for aggression in acute mental health settings. The factor loadings of the participants and the factors are presented in Table 3.

Table 3.
Factor loadings of the participants and the factors

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
P1	.657	.342			.416
P2	.603	.450			
P3	.549	.431			
P4	.694				
P5	.736				
P6	.669		.415		
P7	.357	.483			.603
P8	.613	.388			
P9	.671		.332		
P10	.421		.699		
P11	.448			.565	
P12				.802	
P13					
P14					.827
P15			.843		
P16	.550		.413		.349
P17	.379				.661
P18	.519	.312	.475	.305	
P19	.494	.503	.319		
P20	.593	.440	.378		
P21	.642		.349		

	F1	F2	F3	F4	F5
P22	.650	.402			
P23	.624	.316		.307	
P24		.468			
P25	.375			.335	
P26	.524			.538	.345
P27				.339	
P28					
P29	.354	.446	.318		
P30					
P31		.452		.502	
P32	.322				
P33	.739				
P34			.577	.431	
P35	.653	.303			
P36			.594		
P37	.891				
P38		-.755			
P39		-.814		-.327	
P40	.677				

Factor I: Acknowledge the consumer's experience of hospitalisation

Factor I contributed to 44.4% of the variance and consisted of 16 statements (Table 4). The participants' rank-ordered statements 3, 25, 28 and 29 revealed that they believed that consumers were likely to display aggression when they had unmet needs.

Table 4.
Factor interpretation crib sheet for factor I

	Items ranked at +4
25.	Meeting the consumer's personal needs is an effective way to reduce aggression in the hospital +4
28.	The use of positive communication skills can support consumers to self-manage their behaviour +4
	Items ranked higher in Factor I array than in other factor arrays
1.	Nurses are knowledgeable to collaborate care with consumers in the hospital +3
3.	Consumers are more likely to become aggressive when they have unmet needs +3
29.	Using therapeutic communication to reduce aggression can support consumers re-evaluate their own strengths and abilities during a crisis +3
6.	It is important to get to know the consumer to reduce their level of risk for aggression +2
10.	Little gestures of care are important to reduce aggression +2
24.	Provide positive feedback can support consumers self-manage their risk for aggression +2
27.	An aggressive incident is a learning opportunity for the consumer to learn about their strengths and weaknesses +2
	Items ranked lower in Factor I than in other factor arrays

31.	It is difficult to assess the impact of the consumer's personal issues on their level of risk for aggression -2
34.	Nurses do not understand how trauma-informed care can reduce consumer's risk for aggression -2
11.	It is challenging to empower consumers to self-manage their level of risk for aggression -3
17.	Consumers who have a high risk for aggression should not be involved in their own care -3
39.	There is no intervention to support consumers learn effective strategies to self-manage their risk for aggression -3
	Items ranked at -4
35.	Nurses are not confident to communicate therapeutically with consumers who have a high risk for aggression -4
37.	Using physical and chemical interventions is necessary to reduce aggression -4

The participants' responses to statements 35 and 37 indicated that nurses were confident to use therapeutic communication and should not need to use restrictive practice to reduce aggression. This interpretation was supported by rank-ordered statements 1, 11, 17, 24, 27 and 39, which highlighted participants' position about collaborating with consumers. This was reinforced by their opinions with statements 6, 10, 31 and 34, which emphasised that nurses engaging consumers in co-production implemented more personalised, therapeutic, and trauma-informed care principles and support individuals to achieve personal recovery.

Factor II: Reassure consumers that are going through a difficult time

Factor II contributed to 7.9% of the variance and consisted of 13 statements (Table 5). The participants' rank-ordered statements 4, 12, 16, 20 and 21 highlighted their beliefs that recovery-focused care provided reassurance to consumers who are going through a difficult time.

Table 5.
Factor interpretation crib sheet for factor II

	Items ranked at +4
4.	Recovery-focused care is useful to reduce the impact of the consumer's static (historical) risks for aggression +4
23.	It is a common nursing practice to involve consumers in their own treatment and care during the acute phase of their mental illness +4
	Items ranked higher in Factor II array than in other factor arrays
21.	It is important to explore the impact of personal and mental health crisis on the consumer's risk for aggression +3
34.	Nurses do not understand of how trauma-informed care can reduce consumer's risk for aggression +3
35.	

27.	Nurses are not confident to communicate therapeutically with consumers who have a high risk for aggression +3
	An aggressive incident is a learning opportunity for the consumer to learn about their strengths and weaknesses +2
10.	**Items ranked lower in Factor II than in other factor arrays**
20.	Little gestures of care are important to reduce aggression -1
12.	Dysregulated behaviour is aggression regardless of their trigger -2
16.	Facilitating recovery-focused care is not suitable for a person who is under the influence of drug and alcohol or acute psychiatric symptoms -3
37.	Recovery-focused care is not suitable for acute mental health settings -3
	Using physical and chemical interventions is necessary to reduce aggression -3
11.	**Items ranked at -4**
18.	It is challenging to empower consumers to self-manage their level of risk for aggression -4
	It is difficult to collaborate care with consumers who have a high risk for aggression -4

There was a high level of agreement among participants, who loaded significantly onto factor II that nurses should display more sensitivity and empathy when consumers experience a personal crisis. This was further supported by rank-ordered statements 18 and 23 that it was common for nurses to have to spend time with consumers and validate their lived experience, so that they coped more effectively with their distress. The participants agreed with statement 27 and disagreed with statement 11, which suggested that they viewed each aggressive incident as an opportunity to help consumers to learn about their strengths and weaknesses. This was supported by their rank-ordered statements 10, 34, 35, and 37 which suggested that even though nurses may be unsure of how to promote recovery for consumers experiencing a personal crisis, they should avoid the use of the restrictive practice as the display of patience allows consumers more time to self-regulate their behaviour.

Factor III: Interact to explore the impact of the consumer's lived experiences

Factor III contributed to 5.5% of the variance and consisted of 11 statements (Table 6) which revealed that recovery-focused care was to interact and explore the impact of the consumers' negative experiences. The participants' level of agreement for statements 2 and 22 revealed their opinions that nurses were familiar with how people who were traumatised behaved in the acute mental health settings and that they would assess the consumer's past and present trauma to determine their level of risk for aggression.

Table 6.
Factor interpretation crib sheet for factor III

Items ranked at +4

2. Nurses are familiar with how the consumer's past and present trauma can impact on their level of risk for aggression +4
22. Nurses can assess the consumer's past and present trauma to determine their level of risk for aggression +4

Items ranked higher in Factor III array than in other factor arrays

7. Nurses can support consumers to reflect and learn how to self-manage their behaviour +3
11. It is challenging to empower consumers to self-manage their level of risk for aggression +3
30. Providing positive reinforcements can encourage consumers to self-manage their level of risk for aggression +3
10. Little gestures of care are important to reduce aggression +2

Items ranked lower in Factor III than in other factor arrays

19. Consumers who have a high risk for aggression do not want to establish therapeutic alliance with nurses -3
27. An aggressive incident is a learning opportunity for the consumer to learn about their strengths and weaknesses -3
36. There is no information for consumers to cope with their level of distress in the hospital -3

Items ranked at -4

25. Meeting the consumer's personal needs is an effective way to reduce aggression in the hospital -4
39. There is no intervention to support consumers to learn effective strategies to self-manage their risk for aggression -4

The participants' rank-ordered statements 7, 25 and 27 highlighted the need to focus on supporting consumers to reflect on the impact of their past and present trauma on their current presenting behaviour in the hospital. This was evidenced by participants' rank-ordered statements 10, 11 and 30 that nurses who have knowledge of trauma-informed care displayed a higher level of empathy for consumers who may become aggressive and would use little gestures of care and positive reinforcement to support them to regain control of their behaviour. The participants' responses to statements 19, 36 and 39 indicated that nurses who have knowledge of trauma-informed care avoided the use of restrictive practices and explored alternative strategies to reduce the consumer's aggression risk.

Factor IV: Support co-production to reduce triggers for aggression

Factor IV contributed to 4.4% of the variance and consisted of 16 statements (Table 7). This group agreed with statements 29 and disagreed with statements 12 provided insight into their perception that recovery-focused care supported co-production to reduce triggers for aggression.

Table 7.
Factor interpretation crib sheet for factor IV

Items ranked at +4

11. It is challenging to empower consumers to self-manage their level of risk for aggression +4
37. Using physical and chemical interventions is necessary to reduce aggression +4

Items ranked higher in Factor IV array than in other factor arrays

18. It is difficult to collaborate care with consumers who have a high risk for aggression +3
29. Using therapeutic communication to reduce aggression can support consumers re-evaluate their own strengths and abilities during a crisis +3
36. There is no information for consumers to cope with their level of distress in the hospital +3
14. Consumers who are aggressive are unlikely to collaborate care with nurses +2
20. Dysregulated behaviour is aggression regardless of their trigger +2
13. Using medication is more effective than using interpersonal interventions to reduce aggression +1

Items ranked lower in Factor IV than in other factor arrays

7. Nurses can support consumers reflect and learn how to self-manage their own behaviour -1
22. Nurses can assess the consumer's past and present trauma to determine their level of risk for aggression -2
34. Nurses do not understand how trauma-informed care reduce consumer's risk for aggression -2
5. Aggression can be caused by the disruption to the consumer's familiar routine or lifestyle in the hospital -3
6. It is important to get to know the consumer to reduce their level of risk for aggression -3
40. There is no opportunity in the hospital to coach consumers develop effective strategies to reduce aggression -3

Items ranked at -4

12. Facilitating recovery-focused care is not suitable for a person who is under the influence of drug and alcohol or acute psychiatric symptoms -4
32. Education and training do not prepare nurses to support consumers self-regulate their level of risk for aggression -4

The participants' rank-ordered statements 32, 34 and 40 highlighted their perspectives that nurses were equipped to collaborate with consumers to reduce their triggers for aggression. However, their responses to statements 6, 11, 13, 14, 18, 20, and 37 revealed that it was challenging to manage their clinical workload and incorporate spending designated interpersonal time with consumers. Consequently, the competing non-nursing and administrative tasks can significantly impact on nurses' ability to use recovery-focused care and assess the impact of the consumers' past and present trauma (-2) and lived experience of being in hospital (-3). The lack of information about the person's triggers could prevented nurses from collaborating with consumers to provide them with information to cope with

their level of distress (+3) or to support them to reflect and learn how to self-manage their behaviour (-1).

Factor V: Encourage and support consumers to take ownership of their recovery journey

Factor V contributed to 4.1% of the variance and consisted of 12 statements (Table 8) which indicated that recovery-focused care supported consumers to take ownership of their recovery journey. The participants' rank-ordered statements 15, 16 and 26 revealed their agreement that nurses were well-positioned health professionals in acute mental health settings to travel alongside consumers in their recovery journey to encourage and support them to face and overcome identified triggers for aggression.

Table 8.
Factor interpretation crib sheet for factor V

	Items ranked at +4
26.	Supporting consumers to identify their coping mechanisms is effective to reduce aggression +4
29.	There is no intervention to support consumers learn effective strategies to self-manage their risk for aggression +4
	Items ranked higher in Factor V array than in other factor arrays
9.	Validating the consumer's feelings of being admitted to hospital can reduce their level of risk for aggression +3
11.	It is challenging to empower consumers to self-manage their level of risk for aggression +3
40.	There is no opportunity in the hospital to coach consumers to develop effective strategies to reduce aggression +3
	Items ranked lower in Factor V than in other factor arrays
21.	It is important to explore the impact of having a personal and mental health crisis on the consumer's risk for aggression -2
34.	Nurses do not understand how trauma-informed care reduce consumer's risk for aggression -2
16.	Recovery-focused care is suitable not for acute mental health settings -3
33.	Nurses are not equipped to talk to consumers about their risk for aggression -3
37.	Using physical and chemical interventions is necessary to reduce aggression -3
	Items ranked at -4
3.	Consumers are more likely to become aggressive when they have unmet needs -4
15.	It is not nurses' responsibility to support consumers make adjustment to their familiar lifestyle and daily routines in the hospital -4

While nurses could encourage consumers to take ownership of their recovery journey, the participants' rank-ordered statements 11, 29, 37 and 40 revealed that it was challenging for nurses as they are health professionals expected to intervene to reduce aggression. As such,

their rank-ordered statements 3 and 21 highlighted that consumers were likely to display aggression when they did not experience care that supported them to take ownership of their recovery journey as their mental health improved. This was evidenced by their rank-ordered statements 9, 33 and 34, that nurses should be more supported by their health organisation to use recovery-focused care, so they were able to fully assess the consumer's strengths and weakness to develop personalised care to support them to regain control of their life

DISCUSSION

Currently, there is a lack of research (Waldemar et al., 2019) on the translation of recovery-focused care clinically in acute mental health settings (Cleary et al., 2013; Gilburt et al., 2013; Le Boutillier, Chevalier, et al., 2015a; McKenna, Furness, Dhital, Ennis, et al., 2014). As a result, there is a lack of a shared understanding of using recovery-focused care in the acute mental health settings and this is needed to develop evidence-based quality nursing practice (Le Boutillier, Chevalier, et al., 2015b). With the use of Q methodology, nurses' knowledge and skill components of recovery-focused care to reduce the potential for aggression were analysed using factor analysis to generate five factors, highlighting the most important aspects of recovery-focused care in reducing the risk of aggression. The five factors reveal that using recovery-focused care to reduce aggression is a process that nurses take to empower consumers to feel safe to share their thoughts and emotions, so that they can use their lived experience expertise to take ownership of their recovery journey.

The factor of *'Acknowledge the consumer's experience of hospitalisation'* highlighted that recovery-focused care reduces the impact of the consumers' experiences of being hospitalised on their aggression risks. Nurses using recovery-focused care encourage consumers to express their feelings of being hospitalised, and thereafter personalise care to minimise or eliminate potential associated triggers for aggression (Ilkiw-Lavalle & Grenyer, 2003). This is consistent with previous research that people who are admitted involuntarily to the acute mental health settings are likely to regard themselves as victims of the situation (Whittington & Richter, 2005), trapped, incarcerated, and/or punished for having a mental illness (Eldal et al., 2019). When admitted to hospital, consumers are likely to display aggression in response to the loss of privacy and personal space, freedom of choice, and control of their situations (Barlow et al., 2000; Gudde et al., 2015).

The factor of *'Reassure consumers that are going through a difficult time'* emphasised that recovery-focused care validates the consumers' thoughts and emotions and supports them to identify socially acceptable ways to express themselves. Nurses using recovery-focused care

acknowledge the uniqueness of the consumer's mental health struggles and vulnerability. As such, they will spend time to ensure that the person feels safe and supported, so that they are empowered to talk about their experiences (Eldal et al., 2019). When consumers find strengths to talk to nurses and others about their experiences, they are more likely to rebuild their sense of efficacy and overcome the impact of their past and present trauma and lower their aggression risk (Kelly et al., 2014).

The factor of *'Interact to explore the impact of the consumer's lived experiences'* indicated that recovery-focused care emphasises the use of effective communications to reduce aggression. Nurses using recovery-focused care view the consumer's risk for aggression as an opportunity to engage with the individual in a dialogue and discuss a plan to support their recovery journey (Camuccio et al., 2012). The display of positive attitudes and interest to engage with the consumer is important to help them to build confidence and feel supported in their recovery journey (Eldal et al., 2019; Hungerford & Fox, 2014; Jacob et al., 2017). This can support consumers to feel that they are being understood and validated, thus improve the therapeutic nurse-consumer relationship and reduce interpersonal triggers for aggression (Gaillard et al., 2009). Moreover, when the consumer feels that his/her voice is being heard, they are more likely to use effective communication to personalise care and treatment that support their recovery journey (Wright et al., 2014).

The factor of *'Support co-production to reduce triggers for aggression'* highlighted that recovery-focused care focuses on the consumer's strengths and potential to self-manage their behaviours. Nurses using recovery-focused care recognise that consumers are experts by lived experiences and have developed coping mechanisms to deal with personal setbacks (Slade, 2013). As such, nurses are willing to take positive risks to actively involve consumers in co-production to reduce the potential for aggression (Higgins et al., 2016). The display of trust and optimism for the consumers' strengths and ability is also crucial for them to mobilise their strengths and potentials to assume greater ownership of their recovery (Kidd et al., 2015; Lim et al., 2019b; Zugai et al., 2015).

The factor of *'Encourage and support consumers to take ownership of their recovery journey'* showed that recovery-focused care stresses on supporting consumers to self-determine interventions to reduce aggression. Nurses using recovery-focused care recognise the importance of facilitating consumers to achieve self-responsibility, accountability, and ownership of their recovery journey (Santangelo et al., 2018). This is supported by existing literature that consumers in the process of recovery are able to direct their own recovery journey (Singh et al., 2007). As such, nurses will support consumers to make or share decision, or

negotiate ways to facilitate self-determined strategies to minimise or eliminate risks, rather than implementing a risk-averse approach (McKenna, Furness, Dhital, Park, et al., 2014). When consumers feel empowered to influence or change the trajectory of their care and treatment, they are more likely to assume responsibility of their own behaviour and collaborate with nurses to facilitate their recovery (Dahlqvist Jonsson et al., 2015; Taylor et al., 2017).\

IMPLICATION TO CLINICAL PRACTICE

The finding of this research revealed that relationship building and promoting recovery is a central premise of all interactions that nurses have with consumers (Jeffery & Fuller, 2016; Santangelo et al., 2018; Wilson et al., 2017; Zugai et al., 2015). The five factors provide insight into nurses' shared views of their knowledge and skills of using recovery-focused care to reduce aggression. This finding supports existing literature that nurses are health professionals that have developed understanding of how recovery-focused care can be translated clinically due to their prolonged presence in the acute mental health settings (Felton et al., 2018; Passley-Clarke, 2019; Rickwood & Thomas, 2017; Wyder et al., 2017). However, existing literature reports that nurses are required to focus on risk assessment and management and if necessary, intervene with restrictive practice to protect all consumers and staff (Gunasekara et al., 2014; Meehan et al., 2017; Muir-Cochrane & Duxbury, 2017). Many nurses continue to find themselves having limited time or opportunity (McKeown et al., 2019; Molin et al., 2018; Rio et al., 2020) to prioritise and provide genuine and quality care for consumers due to the conflicting and competing clinical priorities (Le Boutillier, Chevalier, et al., 2015a; Le Boutillier, Slade, et al., 2015; Mellow et al., 2018; Wilson et al., 2017). The opinions expressed by the 40 nurses who participated in this study support the findings of previous studies that nurses should be better supported with adequate staffing levels, so that they can priorities care that supports the consumers' personal recovery in acute mental health settings (McKeown et al., 2019; Stewart et al., 2010).

The findings highlight that nurses establish therapeutic relationships with consumers, and thereafter use recovery-focused care to support them to self-regulate their risk for aggression (Chambers, 1998; Santangelo et al., 2018). However, nurses working in the acute mental health settings are often expected to be risk aversive to maintain a safe environment (Hylén et al., 2019; Wyder et al., 2017). So when consumers become aggressive, nurses may feel pressured to use restrictive practice prematurely, even when they feel that they can use recovery-focused care to achieve better recovery outcomes for the individual (Riahi et al., 2016). The expectations placed on nurses to maintain control and manage aggression are incompatible to

the education and training that made nursing a caring profession. Therefore, many nurses are struggling to maintain their therapeutic role in acute mental health settings (Cleary et al., 2013; McKenna, Furness, Dhital, Ennis, et al., 2014; Wilson et al., 2017).

A mental health culture of care that has a strong focus on risk management and safety of consumers can result in a depletion of a specialist mental health nursing workforce who are competent to use recovery-focused care (Gunasekara et al., 2014; McKeown et al., 2019; Meehan et al., 2017; Muir-Cochrane & Duxbury, 2017). The literature highlighted that for nurses to use recovery-focused care, they must develop specialist mental health nursing knowledge and skills to comfortably and competently work with people with lived experience (Dawood, 2013). For example, they must be able to establish therapeutic relationships with people with personality disorders, past and present trauma, forensic history, substance abuse, and active symptoms of psychosis (Barr et al., 2019). Without specialist mental health nursing knowledge and skills, nurses can only focus on behavioural and symptom management to reduce aggression, even though it is in direct opposition to their beliefs and understanding of mental health recovery (Barr et al., 2019; Giarelli et al., 2018; Lim et al., 2019b; Meehan et al., 2017). Further considerations should be given to developing a skilled mental health nursing workforce so that recovery-focused care is not tokenistic, but truly integrated into all areas of mental health settings (Happell & McAllister, 2015; Reid et al., 2018).

CONCLUSION

In conclusion, nurses must have the knowledge and skills needed to enable them to use recovery-focused care and support consumers with high risks for aggression achieve their recovery. Their contribution to the consumer's recovery should be recognised so that they are empowered to use recovery-focused care in acute mental health settings. When nurses focus on supporting consumers to achieve their personal recovery, stronger therapeutic alliances are fostered to enable nurses to understand the consumers' reason for their behaviour and use more person-centred care to reduce aggression (Holley & Gillard, 2018). The findings of this study are useful for improving mental health care academic and clinical education and training for nurses and other health professional in aggression prevention and management. The findings are useful in future research and quality improvement projects to translate the use of recovery-focused care into all areas of health services for consumers with high risks for aggression.

REFERENCES

Akhtar-Danesh, N., Baumann, A., & Cordingley, L. (2008). Q-Methodology in nursing research: A promising method for the study of subjectivity. *Western Journal of Nursing Research, 30*(6), 759-773. https://doi.org/10.1177/0193945907312979

Akhtar-Danesh, N., & Mirza, N. (2017). Relation between manual rotation and abductive reasoning in Q-methodology. *Open Journal of Social Sciences, 5*, 198-204. https://doi.org/https://doi.org/10.4236/jss.2017.53017

Aston, V., & Coffey, M. (2012). Recovery: what mental health nurses and service users say about the concept of recovery. *Journal of Psychiatric and Mental Health Nursing, 19*(3), 257-263. https://doi.org/10.1111/j.1365-2850.2011.01776.x

Barlow, K., Grenyer, B., & Ilkiw-Lavalle, O. (2000). Prevalence and precipitants of aggression in psychiatric inpatient units. *Australian and New Zealand Journal of Psychiatry, 34*(6), 967-974. https://doi.org/10.1080/000486700271

Barr, L., Wynaden, D., & Heslop, K. (2019). Promoting positive and safe care in forensic mental health inpatient settings: Evaluating critical factors that assist nurses to reduce the use of restrictive practices. *international Journal of Mental Health Nursing, 28*(4), 888-898. https://doi.org/10.1111/inm.12588

Brown, S. R. (1996). Q methodology and qualitative research. *Qualitative Health Research, 6*(4), 561-567. https://doi.org/https://doi.org/10.1177%2F104973239600600408

Camuccio, C. A., Chambers, M., Valimaki, M., Farro, D., & Zanotti, R. (2012). Managing distressed and disturbed patients: the thoughts and feelings experienced by Italian nurses. *Journal of Psychiatric and Mental Health Nursing, 19*(9), 807-815. https://doi.org/10.1111/j.1365-2850.2011.01857.x

Chambers, M. (1998). Interpersonal mental health nursing: Research issues and challenges. *Journal of Psychiatric and Mental Health Nursing, 5*, 203-211.

Cleary, M., Horsfall, J., O'Hara-Aarons, M., & Hunt, G. E. (2013). Mental health nurses' views of recovery within an acute setting. *International Journal of Mental Health Nursing, 22*(3), 205-212. https://doi.org/10.1111/j.1447-0349.2012.00867.x

Coffey, M., Hannigan, B., Barlow, S., Cartwright, M., Cohen, R., Faulkner, A., Jones, A., & Simpson, A. (2019). Recovery-focused mental health care planning and co-ordination in acute inpatient mental health settings: A cross national comparative mixed methods study. *BMC Psychiatry, 19*(1), 115. https://doi.org/10.1186/s12888-019-2094-7

Commonwealth of Australia. (2013). *National framework for recovery-oriented mental health services - Policy and theory*. Australian Government. https://www1.health.gov.au/internet/main/publishing.nsf/Content/51A6107C8A3B01 87CA2582E4007A5591/$File/recovpol.pdf

Commonwealth of Australia. (2019). *Australia's long term national health plan to build the world's best health system*. Department of Health. https://www.health.gov.au/sites/default/files/australia-s-long-term-national-health-plan_0.pdf

Dahlqvist Jonsson, P., Schon, U. K., Rosenberg, D., Sandlund, M., & Svedberg, P. (2015). Service users' experiences of participation in decision making in mental health services. *Journal of Psychiatric and Mental Health Nursing, 22*(9), 688-697. https://doi.org/10.1111/jpm.12246

Dawood, E. (2013). Causes and management of psychiatric inpatient aggression and violence: Comparison between Egyptian and Saudi nurses' perspectives. *Journal of Natural Sciences Research*. https://iiste.org/Journals/index.php/JNSR/article/view/5737/6003

Dennis, K. E. (1986). Q methodology: relevance and application to nursing research. *Advance in Nursing Science, 8*(3), 6-17. https://iiste.org/Journals/index.php/JNSR/article/viewFile/5737/6003

Dziopa, F., & Ahern, K. (2011). A systematic literature review of the applications of Q-technique and its methdology. *Methodology, 7*(2), 39-55. https://doi.org/10.1027/1614-2241/a000021

Eldal, K., Veseth, M., Natvik, E., Davidson, L., Skjølberg, Å., Gytri, D., & Moltu, C. (2019). Contradictory experiences of safety and shame in inpatient mental health practice – A qualitative study. *Scandinavian Journal of Caring Sciences, 33*(4), 791-800. https://doi.org/10.1111/scs.12674

Felton, A., Repper, J., & Avis, M. (2018). Therapeutic relationships, risk, and mental health practice. *International Journal of Mental Health Nursing, 27*(3), 1137-1148. https://doi.org/10.1111/inm.12430

Gabor, M. R. (2013). Q methodology (Q factor analysis)- Particularities and theoretical considerations for marketing data. *International Journal of Arts and Commerce, 2*(4), 116-126. https://ijac.org.uk/images/frontImages/gallery/Vol._2_No._4_April_2013/10.pdf

Gaillard, L. M., Shattell, M. M., & Thomas, S. P. (2009). Mental health patients' experiences of being misunderstood. *Journal of the American Psychiatric Nurses Association, 15*, 191-199.

Giarelli, E., Nocera, R., Jobes, M., Boylan, C., Lopez, J., & Knerr, J. (2018). Exploration of aggression/violence among adult patients admitted for short-term, acute-care mental health services. *Archives of Psychiatric Nursing, 32*(2), 215-223. https://doi.org/10.1016/j.apnu.2017.11.004

Gilburt, H., Slade, M., Bird, V., Oduola, S., & Craig, T. K. J. (2013). Promoting recovery-oriented practice in mental health services: a quasi-experimental mixed-methods study. *BMC Psychiatry, 13*(1), 167. https://doi.org/10.1186/1471-244X-13-167

Gudde, C. B., Olso, T. M., Whittington, R., & Vatne, S. (2015). Service users' experiences and views of aggressive situations in mental health care: a systematic review and thematic synthesis of qualitative studies. *Journal of Multidisciplinary Healthcare, 8*, 449-462. https://doi.org/10.2147/JMDH.S89486

Gunasekara, I., Pentland, T., Rodgers, T., & Patterson, S. (2014). What makes an excellent mental health nurse? A pragmatic inquiry initiated and conducted by people with lived experience of service use. *International Journal of Mental Health Nursing, 23*(2), 101-109. https://doi.org/10.1111/inm.12027

Ha, E. (2014). Attitudes toward video-assisted debriefing after simulation in undergraduate nursing students: An application of Q methdology. *Nurse Education Today, 34*, 978-984. https://doi.org/10.1016/j.nedt.2014.01.003

Ha, E. (2015). Attitudes towards rotating shift work in clinical nurses: A Q-methodology study. *Journal of Clinical Nursing, 24*(17-18), 2488-2497. https://doi.org/10.1111/jocn.12833

Ha, E. (2018). Experience of nursing students with standardized patients in simulation-based learning: Q-methodology study. *Nurse Education Today, 66*, 123-129. https://doi.org/10.1016/j.nedt.2018.04.023

Hackert, C., & Braehler, G. (2007). *FlashQ*. http://www.hackert.biz/flashq/home/

Happell, B., & McAllister, M. (2015). The challenges of undergraduate mental health nursing education from the perspectives of heads of schools of nursing in Queensland, Australia. *Collegian, 22*(3), 267-274. https://doi.org/10.1016/j.colegn.2014.01.004

Higgins, A., Doyle, L., Downes, C., Morrissey, J., Costello, P., Brennan, M., & Nash, M. (2016). There is more to risk and safety planning than dramatic risks: Mental health nurses' risk assessment and safety-management practice. *Int J Ment Health Nurs, 25*(2), 159-170. https://doi.org/10.1111/inm.12180

Holley, J., & Gillard, S. (2018). Developing and using vignettes to explore the relationship between risk management practice and recovery-oriented care in mental health services. *Qualitative Health Research, 28*(3), 371-380. https://doi.org/10.1177/1049732317725284

Hungerford, C., & Fox, C. (2014). Consumer's perceptions of recovery-oriented mental health services: An Australian case-study analysis. *Nursing & Health Sciences, 16*(2), 209-215. https://doi.org/10.1111/nhs.12088

Hylén, U., Engström, I., Engström, K., Pelto-Piri, V., & Anderzen-Carlsson, A. (2019). Providing good care in the shadow of violence - An interview study with nursing staff and ward managers in psychiatric inpatient care in Sweden. *Issues in Mental Health Nursing, 40*(2), 148-157. https://doi.org/10.1080/01612840.2018.1496207

Ilkiw-Lavalle, O., & Grenyer, B. F. (2003). Differences between patient and staff perceptions of aggression in mental health units. *Psychiatric Services, 54*(3), 389-393. https://doi.org/10.1176/appi.ps.54.3.389

Jacob, S., Munro, I., Taylor, B. J., & Griffiths, D. (2017). Mental health recovery: A review of the peer-reviewed published literature. *Collegian, 24*(1), 53-61. https://www.ncbi.nlm.nih.gov/pubmed/29218963

Jang, S., & Wang, M. (2017). A study on the subjectivity of nursing students on dating violence: Q-methdology. *Information, 20*(12), 8537-8544. https://search.proquest.com/docview/2021240371?accountid=10382

Jeffery, D., & Fuller, P. (2016). Witnessing violence: What are the experiences of mental health nurses? *Mental Health Practice (2014+), 20*(2), 15. https://doi.org/10.7748/mhp.2016.e1100

Jueng, R., Huang, S., Li, T., Liang, H., & Huang, C. (2017). Application of a Q method study to understanding nurses' perspective of adopting evidence-based nursing. *Asian Nursing Research, 11*(2017), 253-260. https://doi.org/10.1016/j.anr.2017.09.001

Kelly, U., Boyd, M. A., Valente, S. M., & Czekanski, E. (2014). Trauma-informed care: keeping mental health settings safe for veterans. *Issues in Mental Health Nursing, 35*(6), 413-419. https://doi.org/10.3109/01612840.2014.881941

Kidd, S., Kenny, A., & McKinstry, C. (2015). The meaning of recovery in a regional mental health service: an action research study. *Journal of Advance Nursing, 71*(1), 181-192. https://doi.org/10.1111/jan.12472

Le Boutillier, C., Chevalier, A., Lawrence, V., Leamy, M., Bird, V., Macpherson, R., Williams, J., & Slade, M. (2015a). Staff understanding of recovery-orientated mental health practice: A systematic review and narrative synthesis. *Implementation Science, 10*. https://doi.org/10.1186/s13012-015-0275-4

Le Boutillier, C., Chevalier, A., Lawrence, V., Leamy, M., Bird, V. J., Macpherson, R., Williams, J., & Slade, M. (2015b). Staff understanding of recovery-orientated mental health practice: A systematic review and narrative synthesis. *Implementation Science, 10*, 87. https://doi.org/10.1186/s13012-015-0275-4

Le Boutillier, C., Slade, M., Lawrence, V., Bird, V. J., Chandler, R., Farkas, M., Harding, C., Larsen, J., Oades, L. G., Roberts, G., Shepherd, G., Thornicroft, G., Williams, J., & Leamy, M. (2015). Competing priorities: Staff perspectives on supporting recovery.

Adminstration and Policy in Mental Health, 42(4), 429-438.
https://doi.org/10.1007/s10488-014-0585-x

Lim, E., Wynaden, D., Baughman, F., & Heslop, K. (2020). Realising the potential of Q
methodology in nursing research. *Collegian, xxx*(xxxx), 1-8.
https://doi.org/https://doi.org/10.1016/j.colegn.2020.08.004

Lim, E., Wynaden, D., & Heslop, K. (2017). Recovery-focussed care: How it can be utilized
to reduce aggression in the acute mental health setting. *International Journal of
Mental Health Nursing, 26*(5), 445-460. https://doi.org/10.1111/inm.12378

Lim, E., Wynaden, D., & Heslop, K. (2019a). Changing practice by using recovery-focused
care in acute mental health settings to reduce aggression: A qualitative study.
International Journal of Mental Health Nursing, 28, 237-246.
https://doi.org/10.1111/inm.12524

Lim, E., Wynaden, D., & Heslop, K. (2019b). Consumers' perceptions of nurses using
recovery-focused care to reduce aggression in the acute mental health including
forensic mental health settings: A qualitative study. *Journal of Recovery in Mental
Health, 2/3*(Winter/Spring), 21-34.
https://jps.library.utoronto.ca/index.php/rmh/article/view/32741

Maguire, T., Daffern, M., Bowe, S. J., & McKenna, B. (2017). Predicting aggressive
behaviour in acute forensic mental health units: A re-examination of the dynamic
appraisal of situational aggression's predictive validity. *International Journal of
Mental Health Nursing, 26*(5), 472-481. https://doi.org/10.1111/inm.12377

McKenna, B., Furness, T., Dhital, D., Ennis, G., Houghton, J., Lupson, C., & Toomey, N.
(2014). Recovery-oriented care in acute inpatient mental health settings: An
exploratory study. *Issues in Mental Health Nursing, 35*(7), 526-532.
https://doi.org/10.3109/01612840.2014.890684

McKenna, B., Furness, T., Dhital, D., Park, M., & Connally, F. (2014). Recovery-oriented
care in a secure mental health setting: "Striving for a good life". *Journal of Forensic
Nursing, 10*(2), 63-69. https://doi.org/10.1097/JFN.0000000000000027

McKeown, B., & Thomas, D. (2013). *Q Methodology* (2nd ed.). SAGE.

McKeown, M., Hinks, M., Stowell-Smith, M., Mercer, D., & Forster, J. (1999). Q methodology, risk training and quality management. *International Journal of Health Care Quality Assurance Incorporating Leadership in Health Services, 12*(6-7), 254-266. https://doi.org/10.1108/09526869910291823

McKeown, M., Jones, F., Foy, P., Wright, K., Paxton, T., & Blackmon, M. (2016). Looking back, looking forward: Recovery journeys in a high secure hospital. *International Journal of Mental Health Nursing, 25*(3), 234-242. https://doi.org/10.1111/inm.12204

McKeown, M., Thomson, G., Scholes, A., Jones, F., Baker, J., Downe, S., Price, O., Greenwood, P., Whittington, R., & Duxbury, J. (2019). "Catching your tail and firefighting": The impact of staffing levels on restraint minimization efforts. *Journal of Psychiatric and Mental Health Nursing, 26*(5-6), 131-141. https://doi.org/10.1111/jpm.12532

Meehan, T., de Alwis, A., & Stedman, T. (2017). Identifying patients at risk of inpatient aggression at the time of admission to acute mental health care. What factors should clinicians consider? *Advances in Mental Health, 15*(2), 161-171. https://doi.org/10.1080/18387357.2016.1259001

Mellow, A., Tickle, A., Gresswell, D. M., & Jakobsen, H. (2018). Nurses' discourses of challenging behaviour in inpatient mental-health services. *Mental Health Review Journal, 23*(4), 253-268. https://doi.org/10.1108/MHRJ-02-2018-0006

Molin, J., Lindgren, B. M., Graneheim, U. H., & Ringner, A. (2018). Time Together: A nursing intervention in psychiatric inpatient care: Feasibility and effects. *International Journal of Mental Health Nursing, 27*(6), 1698-1708. https://doi.org/10.1111/inm.12468

Muir-Cochrane, E., Baird, J., & McCann, T. V. (2015). Nurses' experiences of restraint and seclusion use in short-stay acute old age psychiatry inpatient units: A qualitative study. *Journal of Psychiatric and Mental Health Nursing, 22*(2), 109-115. https://doi.org/10.1111/jpm.12189

Muir-Cochrane, E., & Duxbury, J. A. (2017). Violence and aggression in mental health-care settings. *International Journal of Mental Health Nursing, 26*(5), 421-422. https://doi.org/10.1111/inm.12397

Paige, J. B. (2014). Maing sense of methods and measurement: Q-methdology- Part I-Philosophical background. *Clinical Simulation in Nursing, 10*, 639-640. https://doi.org/10.1016/j.ecns.2014.09.008

Paige, J. B. (2015). Making sense of methods and measurement: Q-methodology- Part II-Methodological procedures. *Clinical Simulation in Nursing, 11*, 75-77. https://doi.org/10.1016/j.eens.2014.10.004

Passley-Clarke, J. (2019). Implementation of Recovery Education on an Inpatient Psychiatric Unit. *Journal of American Psychiatric Nurses Association, 25*(6), 501-507. https://doi.org/10.1177/1078390318810413

Price, O., & Baker, J. (2012). Key components of de-escalation techniques: A thematic synthesis. *International Journal of Mental Health Nursing, 21*(4), 310-319. https://doi.org/10.1111/j.1447-0349.2011.00793.x

Pulsford, D., Crumpton, A., Baker, A., Wilkins, T., Wright, K., & Duxbury, J. (2013). Aggression in a high secure hospital: staff and patient attitudes. *Journal of Psychiatric and Mental Health Nursing, 20*(4), 296-304. https://doi.org/10.1111/j.1365-2850.2012.01908.x

Reid, R., Escott, P., & Isobel, S. (2018). Collaboration as a process and an outcome: Consumer experiences of collaborating with nurses in care planning in an acute inpatient mental health unit. *International Journal of Mental Health Nursing, 27*(4), 1204-1211. https://doi.org/10.1111/inm.12463

Riahi, F., Izadi-Mazidi, M., Khajeddin, N., Nasirzadeh, S., Shafieian, F., Helalinasab, A., & Deilamani, M. (2016). Investigation of mental health in patients with medically unexplained physical symptoms. *Iran Journal of Psychiatry, 11*(1), 24-29. https://www.ncbi.nlm.nih.gov/pubmed/27252765

Rickwood, D., & Thomas, J. A. (2017). Recovery and mental health care in Australia - A time of change. *Journal of Recovery in Mental Health, 1*(1), 10-18.

Rio, J. H. M., Fuller, J., Taylor, K., & Muir-Cochrane, E. (2020). A lack of therapeutic engagement and consumer input in acute inpatient care planning limits fully accountable mental health nursing practice. *International Journal of Mental Health Nursing, 29*(2), 290-298. https://doi.org/10.1111/inm.12684

Santangelo, P., Procter, N., & Fassett, D. (2018). Mental health nursing: Daring to be different, special and leading recovery-focused care? *International Journal of Mental Health Nursing, 27*(1), 258-266. https://doi.org/10.1111/inm.12316

Shinebourne, P. (2009). Using Q method in qualitative research. *International Institute for Qualitative Methodology (IIQM), 8*(1), 93-97. https://doi.org/https://doi.org/10.1177%2F160940690900800109

Simons, J. (2013). An introduction to Q methodology. *Nurse Researcher, 20*(3), 28-32.

Singh, N. N., Lancioni, G. E., Winton, A. S., Adkins, A. D., Wahler, R. G., Sabaawi, M., & Singh, J. (2007). Individuals with mental illness can control their aggressive behavior through mindfulness training. *Behavior Modification, 31*(3), 313-328. https://doi.org/10.1177/0145445506293585

Slade, M. (2013). *100 ways to support recovery* (2 ed.). Rethink Mental Illness. https://www.rethink.org/advice-and-information/living-with-mental-illness/treatment-and-support/100-ways-to-support-recovery/

Slade, M., Amering, M., Farkas, M., Hamilton, B., O'Hagan, M., Panther, G., Perkins, R., Shepherd, G., Tse, S., & Whitley, R. (2014). Uses and abuses of recovery: implementing recovery-oriented practices in mental health systems. *World Psychiatry, 13*(1), 12-20. https://doi.org/10.1002/wps.20084

Slade, M., & Longden, E. (2015). Empirical evidence about recovery and mental health. *BMC Psychiatry, 15*, 285. https://doi.org/10.1186/s12888-015-0678-4

Stewart, D., Van der Merwe, M., Bowers, L., Simpson, A., & Jones, J. (2010). A review of interventions to reduce mechanical restraint and seclusion among adult psychiatric inpatients. *Issues in Mental Health Nursing, 31*(6), 413-424. https://doi.org/10.3109/01612840903484113

Stubbs, B., & Dickens, G. (2008). Prevention and management of aggression in mental health: An interdisciplinary discussion. *International Journal of Therapy and Rehabilitation, 15*(8), 351-357. https://doi.org/10.12968/ijtr.2008.15.8.30819

Taylor, E., Perlman, D., Moxham, L., Pegg, S., Patterson, C., Brighton, R., Sumskis, S., & Heffernan, T. (2017). Recovery camp: Assisting consumers toward enhanced self-determination. *International Journal of Mental Health Nursing, 26*(3), 301-308. https://doi.org/10.1111/inm.12227

Valenta, A. L., & Wigger, U. (1997). Q-methodology: definition and application in health care informatics. *Journal of the American Medical Informatics Association, 4*(6), 501-510. https://doi.org/10.1136/jamia.1997.0040501

Vargas, D. d., Luis, M. A. V., Soares, J., & Soares, M. H. (2015). Reliability and validity of the Management of Aggression and Violence Attitude Scale (MAVAS-BR) for use in Brazil. *Archives of Clinical Psychiatry (São Paulo), 42*, 161-164. http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0101-60832015000600161&nrm=iso

Waldemar, A. K., Esbensen, B. A., Korsbek, L., Petersen, L., & Arnfred, S. (2019). Recovery-oriented practice: Participant observations of the interactions between patients and health professionals in mental health inpatient settings. *international Journal of Mental Health Nursing, 28*(1), 318-329. https://doi.org/10.1111/inm.12537

Watts, S., & Stenner, P. (2012a). *Doing Q methodological research: Theory, method and interpretation*. SAGE Publications Asia-Pacific Pte Ltd.

Watts, S., & Stenner, P. (2012b). Introducing Q methdology: The inverted-factor technique. In *Doing Q Methodological Research* (pp. 3-23). SAGE Publications Ltd

Webler, T., Danielson, S., & Tuler, S. (2009). Using Q method to reveal social perspectives in environmental research. http://www.seri-us.org/sites/default/files/Qprimer.pdf

Western Australian Mental Health Commission. (2010). Mental health 2020: Making it personal and everybody's business. http://www.mentalhealth.wa.gov.au/Libraries/pdf_docs/Mental_Health_Commission_strategic_plan_2020.sflb.ashx

Western Australian Mental Health Commission. (2019). *Western Australian mental health, alcohol and other drug services plan 2015-2025*. Government of Western Australia. https://www.mhc.wa.gov.au/media/2830/plan-update-2018.pdf

Whittington, R., & Richter, D. (2005). Interactional aspects of violent behaviour on acute psychiatric wards. *Psychology, Crime & Law, 11*(4), 377-388. https://doi.org/10.1080/10683160500255372

Wilson, C., Rouse, L., Rae, S., & Kar Ray, M. (2017). Is restraint a 'necessary evil' in mental health care? Mental health inpatients' and staff members' experience of physical restraint. *International Journal of Mental Health Nursing, 26*(5), 500-512. https://doi.org/10.1111/inm.12382

Wright, K. M., Duxbury, J. A., Baker, A., & Crumpton, A. (2014). A qualitative study into the attitudes of patients and staff towards violence and aggression in a high security hospital. *Journal of Psychiatric and Mental Health Nursing, 21*(2), 184-188. https://doi.org/10.1111/jpm.12108

Wyder, M., Ehrlich, C., Crompton, D., McArthur, L., Delaforce, C., Dziopa, F., Ramon, S., & Powell, E. (2017). Nurses experiences of delivering care in acute inpatient mental health settings: A narrative synthesis of the literature. *International Journal of Mental Health Nursing, 26*(6), 527-540. https://doi.org/10.1111/inm.12315

Yang, Y. (2016). A brief introduction to Q methodology. *International Journal of Adult Vocational Education and Technology, 7*(2), 42-53. https://doi.org/10.4018/IJAVET.2016040104

Zugai, J. S., Stein-Parbury, J., & Roche, M. (2015). Therapeutic alliance in mental health nursing: an evolutionary concept analysis. *Issues in Mental Health Nursing, 36*(4), 249-257. https://doi.org/10.3109/01612840.2014.969795