Co-occurring Mental Health and Substance Misuse Recovery, a Critical Review

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Abstract

**Background:** This paper illustrates important factors for recovery from co-occurring mental health and substance misuse conditions. Individuals with co-occurring conditions face challenging recovery trajectories; however, little is known about how these people can heal holistically. The purpose of this paper was therefore to explore the essential elements relevant for recovery and to identify any gaps in research.

**Methods:** A critical review was conducted; six studies were selected and scrutinised.

**Results:** Although this review reiterated that recovery is a unique and personal process, several shared factors were found to be of significant support. Strong themes surrounding education, social support, spirituality and productivity were identified as imperative to recovery.

**Key words:** Mental illness, Substance misuse, Co-occurring conditions, Dual diagnosis, Recovery, Dual Recovery

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Introduction

This review seeks to scrutinise six research studies surrounding mental health and substance misuse recovery. The paper will summarise the search strategy, critically appraise the methodological approaches, conduct a thematic analysis, discuss the findings in relation to health and social care practice, and provide possible areas for future research.

When an individual has two or more medical conditions, it is referred to as a dual-diagnosis, comorbidity or co-occurring conditions (National Institute on Drug Abuse, 2010). Co-occurring mental health and substance misuse issues are becoming increasingly common; it is estimated that mental health and substance abuse issues affect 1 in every 5 individuals (Ross et al, 2015). Individuals with co-occurring conditions arguably face more difficult recovery trajectories since they often have a multitude of factors to face. Just one condition can have a profound impact upon a person's life; two interacting conditions could therefore be overwhelming (Rassool, 2006). Rassool (2006) reports that individuals with a dual diagnosis are at an increased risk of homelessness, HIV and self-harm, investigating the elements of recovery is therefore essential.

The current understanding of comorbidity is inadequate; the evidence base surrounding the effectiveness of treatment approaches and the suitability of services is limited and little is known about how a person can heal holistically (Hogan et al, 2015; Schulte et al, 2008). This investigation...
will identify any important aspects relevant for recovery and any gaps in research.

**Literature search**

The University of Wolverhampton’s library catalogue and a range of EBSCO host databases (Academic Search Complete, CINAHL, MEDLINE, PsycINFO, the Psychology and Behavioural Sciences Collection) were employed for the search strategy.

The keywords ‘substance abuse’, ‘mental illness’ and ‘recovery’ were initially used, which produced 1692 results. In order to limit the search, the author selected articles published between 2011-2017 with full text only, this produced 504 results. Two studies were selected from the surface, which then provided alternative keywords. At this point it proved advantageous to be aware of ‘Boolean logic’; the principles behind search engines where simple words such as AND, OR and NOT can be used to limit and broaden the results. The search was refined again to include the terms ‘dual diagnosis’ or ‘co-occurring’ or ‘comorbidity’, which produced 111 results. Another study was selected from the surface, however a number of studies surrounding homelessness were present so the author excluded these from the search and further limited the results to those with references available, producing 20 results. One further study was selected from the list but the other sources were unsuitable. The library catalogue was then searched using the keywords ‘dual diagnosis’, ‘recovery’ and ‘experiences’. After refining the results by content type and publication date, the final two studies were selected.

**Methodological Approach and Research Methods**

Each study justified the relevance of the research, clearly stated its aim and adopted a design appropriate for addressing said aims. Five studies employed a qualitative approach (Brekke et al, 2017; Cabassa, Nicasio and Whitley, 2013; Edward and Robins, 2012; Hipolito, Carpenter-Song and Whitley, 2011; Thomas and Rickwood, 2016), which is suitable for exploring the subjective experience of recovery. Qualitative research aligns with interpretivist ontology; it assumes that individuals construct their own reality and therefore seeks to conduct studies within natural social settings in order to understand personal thoughts and feelings (Bowling, 2009).

Qualitative approaches have proven advantageous in exploring sensitive subjects (Bowling, 2009); researchers interact with respondents, which allows for rapport to be built and thus produces detailed data. Nevertheless, when the inquirer interacts with participants it has the potential to influence the data-collection and interpretation (Gerrish, 2011). Qualitative research could therefore be criticised since it cannot guarantee objectivity and there is no way to ensure that the data has been construed correctly (Sarantakos, 2005). Robson (2002) argues that although there is a need to represent reality, it ought to be acknowledged that ‘reality’ can differ depending on the perspective (Cowan, 2009).

One study adopted a mixed-methods approach (Green et al, 2015); employing qualitative methods to explore personal perceptions, with quantitative methods to seek some objectivity and provide socio-demographic data. Quantitative approaches align with positivist ontology; which assumes that reality is concrete and argues that certain characteristics can be accurately measured (Badewi, 2013). In quantitative research the inquirer is independent; there is no interaction with participants to prevent any bias. The use of both quantitative and qualitative methods can complement one another and provide more accurate, in-depth data (Tashakkori and Teddlie, 2003).

Five of the studies acquired ethical approval from the appropriate boards and obtained informed consent from respondents (Brekke et al, 2017; Cabassa, Nicasio and Whitley, 2013; Green et al, 2015; Hipolito, Carpenter-Song and Whitley, 2011; Thomas and Rickwood, 2016), which usually indicates righteous research since it suggests that
ethical issues have been considered and steps have been taken to ensure that participants rights are protected. Ethical considerations are integral to any research design, however, although researchers must attempt to avoid causing harm, Sarantakos (2005) highlights that there is no one agreement among academics as to what harmful exactly constitutes; that which researchers may consider harmful might differ to the respondents view; for some, merely engaging in a particular subject matter could cause distress. One study offered financial incentives to those who participate (Hipolito, Carpenter-song and Whitley, 2011), which could be criticised for being cohesive. People should not be persuaded or pressurised into participating; there are concerns that payments prevent financially disadvantaged groups from providing freely given consent (Ethics Guidebook, 2017).

One study was exempt from ethical review since the research did not require any interaction with respondents, furthermore informed consent was not obtained but instead the authors argued that it was implied since the data derived from public domains (Edward and Robins, 2012). Denscombe (2010) declares that internet-data is not straightforward and states that there are occasions where it is neither possible nor practical to obtain consent. Moreover, all of the studies do appear to have acted in the interest of both beneficence (done for the greater good; to benefit others) and non-maleficence (done in a way which prevents harm from participants) (Earle et al, 2007).

The sample, including the selection strategy, is another imperative aspect of research (Moule, 2015); when well designed it encourages unbiased and robust results (Wilmot, 2005). Two studies did not discuss details of their sample (Edward and Robins, 2012; Thomas and Rickwood, 2016). This was warranted for Edward and Robins (2012) due to the very nature of their research. Conversely, Thomas and Rickwood (2016) completely failed to acknowledge how or why they selected the particular participant for their case study, leading to questions surrounding credibility.

One study used probability sampling and randomly selected participants from a healthcare centre within strata defined by gender and diagnosis (Green et al, 2015). Hek, Judd and Moule (2003) highlight that this allows researchers to achieve a representative sample of a smaller size, however, this was not the case with this particular study since the sample was so large and solely consisted of members of an insurance plan, thus excluding those without insurance, furthermore the majority of the participants were white, thus eliminating the experiences of other ethnicity’s. Although probability sampling is often portrayed as the ideal method for generating a representative sample, Denscombe (2010) notes that it does not necessarily lend itself to studies surrounding substance use or the homeless since this information is not readily available as there is no database documenting every individual who uses illicit substances or is homeless. Non-probability (purposive) sampling can still generate a strong sample, although it relies heavily upon good practice (Denscombe, 2010). Purposive sampling was appropriately used within one study (Cabassa, Nicolasio and Whitley, 2013).

Volunteer samples were used within two studies (Brekke et al, 2017; Hipolito, Carpenter-song and Whitley, 2011). Parahoo (2006) states that self-selected samples are some of the weakest and contends that they are used merely out of convenience. Nevertheless, Brekke et al (2017) justified their recruitment methods; since the study sought a sample diverse in age, gender and duration since contact with services, distributing flyers in relevant locations appears apt. Unfortunately, the same cannot be said for the second study since the volunteers were residents within a recovery community (Hipolito, Carpenter-Song and Whitley, 2011). Wissen and Siebers (1993) discuss ‘un-coerced voluntary participation’ and question exactly how voluntary participation can be within a captive population such as a hospital or care home (Parahoo, 2006). They note a number of reasons
why people in such places may volunteer, for example: they may feel morally obligated, they may fear reprisal if they refuse, or they may fear being labelled as uncooperative (Wissen and Siebers, 1993, in Parahoo, 2006). With these considerations in mind, it is plausible to claim that the validity of the data could be compromised.

All but one of the applicable studies acquired a suitably sized sample for their data collection methods (Brekke et al, 2017; Cabassa, Nicasio and Whitley, 2013; Hipolito, Carpenter-song and Whitley, 2011; Thomas and Rickwood, 2016). Although there is no set standard sample size, Lapan, Quartaroli and Reimer (2011) note that low levels of participants are able to provide in-depth, meaningful data; a large sample is therefore not necessary. One study claimed that it conducted in-depth individual interviews with 177 participants (Green et al, 2015), but it could be argued that this was unwarranted. Kvale (1996) contends that large samples are not suitable for interview studies; it can cause confusion during the data analysis and prevent the penetrating themes from being clearly identified (Trainor and Graue, 2013).

A diverse range of data collection methods were utilised, each one was justified by the researchers and suitable for the study. One study used photo-voice (Cabassa, Nicasio and Whitley, 2013); where participants take photographs of their personal experiences and then discuss them in photo-elicitation interviews and group dialogues. Using visual materials is a creative way to capture the reality of recovery, which compared to most conventional methods, is unobtrusive and empowering (Creswell, 2014). Although the data could be difficult to interpret, employing individual elicitation interviews somewhat eradicates this issue.

One study stated that focus groups and observations were employed for data-collection (Hipolito, Carpenter-Song and Whitley, 2011), however it failed to provide any further information on the observations. The focus groups were particularly fitting as it aligned with routine practices in a residential recovery community; respondents were therefore accustomed to sharing their experience in a group format. The group dynamics have the ability to stimulate discussion and generate governing themes relevant to recovery (Bowling, 2009), but there is a risk that more powerful personalities can dominate discussions and express their experiences at the expense of others (Parahoo, 2006).

Klapowitz (2000) compared the data of focus groups and individual interviews and found that interviews are more suited for sensitive subjects; interviews were revealed to be 18 times more likely to raise delicate discussions (Parahoo, 2006). Three studies suitably employed interviews (Brekke et al, 2017; Green et al, 2015; Thomas and Rickwood, 2016), whilst one conducted a documentary analysis (Edward and Robins, 2012), which can be seen as an alternative to both questionnaires and interviews (Denscombe, 2010). Denscombe (2010) declares that documentary data should not be taken at face value, nevertheless this was acknowledged by the authors, who used a quality criteria checklist to select data and provided a clear audit trail to enhance credibility.

All of the applicable studies audiotaped the data-collection process, which raises reliability (Keats, 2000). This was suitable for four of the studies (Brekke et al, 2017; Cabassa, Nicasio and Whitley, 2013; Green et al, 2015; Thomas and Rickwood, 2016), however it could be argued that it is not so fitting for use with focus groups (Hipolito, Carpenter-song and Whitley, 2011). Audio-recording a number of participants could prove difficult during the data analysis stage, which could result in misinterpretation.

A detailed description of the data analysis process was provided by each study. One study (Edward and Robins, 2012) read and reviewed statements until they reached saturation; the point where no new information emerges (Given, 2008). Saturation suggests that a concept has been thoroughly
examined and indicates quality data collection (Trainor and Graue, 2013). Five studies used coding to categorise key themes (Brekke et al., 2017; Cabassa, Nicasio and Whitley, 2013; Green et al., 2015; Hipolito, Carpenter-song and Whitley, 2011; Thomas and Rickwood, 2016), four of which were assisted with analytical software (Brekke et al., 2017; Cabassa, Nicasio and Whitley, 2013; Green et al., 2015; Thomas and Rickwood, 2016). Kaefer et al. (2015) contends that analytical software makes a study more transparent and trustworthy. Furthermore, it is able to illustrate patterns of data that might not be identifiable with manual methods (Costa et al., 2017). Nevertheless, these programmes can be complex. Regardless of which data-analysis method is decided, researchers require particular skills and abilities. Although four studies stated that the authors were suitably qualified (Brekke et al., 2017; Cabassa, Nicasio and Whitley, 2013; Edward and Robins, 2012; Green et al., 2015), two did not disclose any background information regarding the researchers (Hipolito, Carpenter-song and Whitley, 2011; Thomas and Rickwood, 2016), which can lead to questions surrounding suitability.

Sufficient information was provided by each study and was presented logically to support the findings. Five of the studies engaged in some form of peer debriefing or member checking activities to enhance credibility (Brekke et al., 2017; Cabassa, Nicasio and Whitley, 2013; Green et al., 2015; Hipolito, Carpenter-Song and Whitley, 2011; Thomas and Rickwood, 2016), two of which employed a range of researchers, clinicians and other relevant personal to increase rigour (Brekke et al., 2017, Green et al., 2015).

**Thematic Analysis**

After analysing the findings of the six studies, a number of factors relevant for recovery were identified (See also appendix 2 – themes table).

**Recovery routes**

The studies acknowledged a range of recovery routes. Several respondents reported that they reached recovery with the assistance of formal treatment programmes (Green et al., 2015), however some studies identified programme related problems. Respondents reported receiving mixed messages from clinicians, mental health medications impacting upon their ability to attend appointments, or being kicked out in the first instance of relapse (Edward and Robins, 2012; Green et al., 2015). A number of participants noted that they had a natural recovery, whereby they reduced substance use or reached sobriety by themselves, without help (Green et al., 2015). Reaching sobriety was found to be important for initiating the recovery process (Green et al., 2015; Hipolito, Carpenter-song and Whitley, 2011), but gaining complete control over substance use and symptoms was found to be just one pathway to recovery, rather than the very essence (Brekke et al., 2017). Some participants cited continued controlled substance use, even if it went against clinician’s advice (Edward and Robins, 2012; Green et al., 2015).

These findings demonstrate the diversity of recovery; it illustrates the unique and individual aspects of each person’s healing process and suggests that there is no set standard route to be taken.

**Coming to terms with the conditions**

Recovery was revealed to entail coming to terms with conditions, this involved: acknowledging and accepting the existence of both the psychiatric and the substance abuse issues and developing a deeper awareness of oneself, ones illness and the impact that drug and alcohol use can have. Themes of acknowledgement, acceptance and awareness were identified across five studies (Brekke et al., 2017; Edward and Robins, 2012; Green et al., 2015; Hipolito, Carpenter-Song and Whitley, 2011; Thomas and Rickwood, 2016).

Some respondents reported using substances to self-medicate, thus masking their mental health issues (Hipolito, Carpenter-Song and Whitley 2011); recognising the reality of the situation was
revealed to be the first step for recovery. Likewise, Edward and Robins (2012) found admittance and acceptance to be important aspects; some statements reflected that recovery could not commence without treating both conditions. Acknowledgement also referred to the unravelling of traumatic events; recognising how a painful past might influence the present enabled individuals to move forward with their lives (Brekke et al., 2017; Hipolito, Carpenter-Song and Whitley, 2011).

An awareness of the condition and the effects of drugs and alcohol were also found to contribute towards recovery. Respondents reported that they had no idea what they were doing to their bodies (Green et al., 2016); learning about it helped motivate them to change. Self-awareness of triggers and strategies for symptom management were also found to be significant (Hipolito, Carpenter-Song and Whitley, 2011; Thomas and Rickwood, 2016).

These findings imply that the identification of both the mental health and the substance abuse issues is imperative and the statements suggest that treating them together is more successful. The findings also indicate the importance of enquiring about traumatic events. Trauma is usually a very personal and private matter, but professionals should support people to explore their past; otherwise it could hinder the recovery process and prevent people from progressing forward (Rosenberg, 2011). Finally, an awareness of the conditions was found to be fundamental; therefore both services and service-users need to be educated on the impact and interactions of mental health and substance use.

**Spirituality**

Spiritual sustenance was found to play an important role in recovery across four studies (Brekke et al., 2017; Cabassa, Nicasio and Whitley, 2013; Green et al., 2015; Hipolito, Carpenter-Song and Whitley, 2011). Spirituality was found to serve as a valuable source of hope (Hipolito, Carpenter-Song and Whitley, 2011) and a number of respondents reported that they relied on their religion or faith as a source of strength for sobriety (Cabassa, Nicasio and Whitley, 2013). Prayers, meditation and reading religious texts were cited as being used as a healthy release from stress, and spiritual services were found to give individuals a sense of direction (Cabassa, Nicasio and Whitley, 2013). Some participants stated that what had helped them was of a religious nature (Green et al., 2015), others noted that understanding the bigger picture and recognising the concept of a higher power provided them with a sense of dignity and meaning (Brekke et al., 2017; Green et al., 2015). In one study shift unhealthy behaviours with encouragement and reinforcement (Cabassa, Nicasio and Whitley, 2013). Socialisation was found to aid recovery by reducing isolation and depression (Cabassa, Nicasio and Whitley, 2013), however respondents reported difficulty feeling accepted in the community as a substance user (Brekke et al., 2017). Having someone to talk to was identified as imperative (Brekke et al., 2017; Thomas and Rickwood, 2016) and participants stressed the significance of simply being around other people in similar situations (Green et al., 2015). Peer support was found to increase people’s awareness of addictions (Brekke et al., 2017) and providing that support for peers enabled individuals to feel valued and needed (Cabassa, Nicasio and Whitley, 2013).

These findings demonstrate the social dimensions of recovery; peers can have an immense impact upon a person’s self-control and self-esteem, both of which are essential elements. It is therefore important that professionals are aware of this and provide support group services and peer-led initiatives where possible.
participants said that they kept spiritual experiences secret from professionals for fear of it being seen as a symptom (Brekke et al, 2017).

These findings highlight the healing aspects of faith. Since spirituality can be such a significant factor for some people’s recovery, it is imperative that professionals adopt a non-judgemental attitude, which allows individuals to be open and talk freely. Again, support groups might be a suitable suggestion since they often incorporate elements of spirituality within the sessions.

**Being productive/having purpose**

Recovery was revealed to involve being productive and finding purpose within four studies (Brekke et al, 2017; Cabassa, Nicasio and Whitley, 2013; Edward and Robins, 2012; Thomas and Rickwood, 2016).

Respondents described recovery as feeling useful and remaining occupied (Brekke et al, 2017; Edward and Robins, 2012); having something to do or somewhere to be was identified as important, even if it just meant getting out of the house for a while (Edward and Robins, 2012). Cabassa, Nicasio and Whitley (2013) found life achievements to be central to recovery; going back to school, completing qualifications or finding employment restored a sense of self-worth and purpose. The same was echoed within Brekke et al (2017); recovery was defined as ‘mastering life’; practising skills and gaining greater experience to accomplish personal goals.

Community involvement provided individuals with a sense of connectedness and feelings of normalcy (Edward and Robins, 2012), contributing within the community was also associated with feeling valuable (Brekke et al, 2017).

These findings posit that community participation is pivotal for recovery. Services that provide support with education and employment could have a promising, positive impact, although they may not prove practical for everyone. Individuals with co-occurring conditions may benefit from reablement services; which seeks to support people to regain skills and confidence with a range of assisted activities (Care Quality Commission, 2012).

**Application to Health and Social Care**

Overall, the findings demonstrate a need to develop a deeper awareness of co-occurring conditions. Mental health and substance abuse issues are extremely prevalent and people with co-occurring conditions are likely to present within contexts other than just healthcare (Baker and Velleman, 2007), educational programmes aimed at both professionals and the public should therefore be employed to promote awareness. Promoting awareness promotes the recovery process; the studies showed that individuals must come to terms with their conditions (Green et al, 2016; Hipolito, Carpenter-Song and Whitley, 2011; Thomas and Rickwood, 2016); they should be supported to learn about the impact of and the interactions between their mental health and substance abuse issues, but this cannot take place unless all agencies have an adequate awareness themselves.

Acknowledging the existence of both conditions was found to be the first step for recovery (Edward and Robins, 2012), however many people self-medicate (Hipolito, Carpenter-Song and Whitley 2011), which masks the true extent of their troubles. Individuals are often unable to recognise that they have co-occurring issues (Baker and Velleman, 2007). Identification is imperative to recovery since co-occurring conditions often interact, an implication for practice could therefore be the suggestion of routine screening within mental health and substance misuse services. The criminalities surrounding substance use sees people reluctant to tell professionals their problems; policies and procedures should therefore be developed to promote trust. Service-users should feel at ease and simple screening interviews and self-report questionnaires should be implemented (Baker and Velleman, 2007).
The studies showed that there is no set standard recovery route (Brekke et al., 2017; Green et al., 2015; Hipolito, Carpenter-song and Whitley, 2011); what works for one person may not work for another, therefore there should be a range of treatment options on offer. The findings suggest that support groups might be most suitable for this client group since they can provide social and spiritual sustenance. Since the studies suggested that being productive is pivotal to recovery (Brekke et al., 2017; Cabassa, Nicasio and Whitley, 2013; Edward and Robins, 2012; Thomas and Rickwood, 2016), community based interventions should also be considered; societal participation has shown to reduce the severity of distress and any community involvement can give individuals a greater capacity to cope (Tew, 2005). Talking therapies should always be an available option; trauma is cited as a commonality amongst individuals with co-occurring conditions (Brown et al., 2013) and ignoring it only hinders healing.

**Identifying Future Research Needs**
The six studies have contributed greatly to the comprehension of co-occurring conditions and have identified a number of important issues relevant for recovery, nevertheless there are several limitations surrounding the samples. Some samples seem to be biased as they only selected particular groups of people (Green et al., 2015; Hipolito, Carpenter-song and Whitley, 2011; Thomas and Rickwood, 2016), furthermore none of the studies investigated the experience of individuals in the United Kingdom. Hipolito, Carpenter-song and Whitley (2011) note that meanings of recovery may differ depending on ones socio-demographic status, studies should therefore be conducted within the United Kingdom and they should seek a diverse sample comprising of different ages, genders and ethnic groups. Some studies identified programme related problems (Edward and Robins, 2012; Green et al., 2015); more research is therefore required to expand on any barriers to recovery.

**Conclusion**
Overall, the studies have shown that although recovery is an extremely personal process, there are a number of shared elements that can be of significant support. Education encourages recovery by raising awareness and allowing individuals to come to a clear understanding about their conditions, learning new skills keeps people productive and can also provide a sense of meaning and purpose. Community participation and peers can have a positive influence on a number of levels, however some statements suggested that substance users struggled to feel like they fit in. Spirituality was found to be another important influence, but it tends to be overlooked within traditional treatment services. Peer-led support groups have therefore shown to be particularly promising for this client group since they incorporate elements of spirituality and socialisation within the sessions.

All of the studies have methodological strengths and weaknesses, although there were questions surrounding the suitability of some approaches, the author argues that the appropriate steps were taken to ensure authenticity and validity, thus allowing for this data to be added to the already existing knowledge of co-occurring conditions.
References

Badewi, A. (2013) Ontology, Epistemology, and Methodology - Research Methodology Course (Self-Study) - Session 2 [online] [accessed 10th April 2017]. Available at: <https://www.youtube.com/watch?v=kf8wGvunyG8>.


Appendices:

Appendix 1: Search summary

Databases used:
- Academic Search Complete
- CINAHL
- MEDLINE
- PsycINFO
- Psychology and Behavioural Sciences Collection
- University of Wolverhampton Library Catalogue

Keywords used:
- Mental illness
- Substance abuse
- Dual diagnosis OR Co-occurring OR Comorbidity
- Recovery
- Experiences

Study selection process:
- ‘Substance abuse’, ‘mental illness’ and ‘recovery’ = 1692 results,
- Limited to articles with full text only, published between 2011-2017 = 504 results (two studies selected from the surface).
- Keywords ‘dual diagnosis’ OR ‘co-occurring’, OR ‘comorbidity’ included = 111 results (one study selected from the surface).
- Search refined to exclude the terms ‘homeless’ OR ‘homelessness’, limited to articles with references available = 20 results (one study selected).
- University of Wolverhampton Library catalogue searched using the keywords ‘Dual Diagnosis’, ‘Recovery’ and ‘Experiences’ =24,806 results.
- Limited to journal articles with full text available, published between 2012-2017 = 4,779 results.
- Limited by subject terms; studies = 536 results (two final studies selected).
### Appendix 2 Themes

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<td>Coming to terms with Conditions: Acknowledgement, Acceptance, Awareness.</td>
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<td>Being Productive/Having purpose</td>
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## Appendix 3 Studies

<table>
<thead>
<tr>
<th>Authors</th>
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<th>Title of study</th>
<th>Aim</th>
<th>Methodology</th>
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<tr>
<td>Brekke <em>et al</em> (2017)</td>
<td>Norway</td>
<td>First Person Experiences of Recovery in Co-occurring mental health and substance use conditions.</td>
<td>To explore and describe recovery as experienced by persons who live with co-occurring mental health and substance abuse issues.</td>
<td>Qualitative</td>
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<td>Cabassa, Nicasio and Whitley (2013)</td>
<td>New York</td>
<td>Picturing Recovery: A Photo voice Exploration of Recovery Dimensions Among People with Serious Mental Illness.</td>
<td>To explore how individuals with serious mental health and substance abuse issues envision their recovery.</td>
<td>Qualitative</td>
</tr>
<tr>
<td>Edward and Robins (2012)</td>
<td>USA based websites were used</td>
<td>Dual Diagnosis as described by those who experience the disorder: using the internet as a source of data.</td>
<td>To explore the personal narratives of those who experience dual diagnosis.</td>
<td>Qualitative</td>
</tr>
<tr>
<td>Hipolito, Carpenter, Song and Whitley (2011)</td>
<td>Washington DC</td>
<td>Meanings of Recovery from the Perspective of people with dual diagnosis.</td>
<td>To examine the notion of recovery based on the experiences of people with dual diagnosis.</td>
<td>Qualitative</td>
</tr>
<tr>
<td>Thomas and Rickwood (2016)</td>
<td>Australia</td>
<td>One Woman's Journey of Recovery from mental illness-Hopes, Back-up Plans, Rebuilding Self and Service Support.</td>
<td>To illustrate the unique experience of recovery and describe the ways in which it was facilitated by a recovery oriented residential mental health service.</td>
<td>Qualitative</td>
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### Sampling strategy:
Volunteer. Participants referred themselves to the study.

### Purpose:
2 agencies nominated eligible participants, which was then refined by researchers.

### Probability:
Participants were randomly selected within strata defined by gender and diagnosis.

### Volunteer:
All residents within the recovery community were invited to partake.

### The authors did not discuss how or why the particular participant was selected.

### Sample:
- 8 participants
  - 4 males
  - 4 females
- 16 participants
  - 9 males
  - 7 females
- Majority of the respondents were African American or Hispanic (14).

### Unknown:
- 177 participants
  - 85 males
  - 92 females
- Majority of respondents were white (167) members of an integrated healthcare insurance plan.

### Approx. 8 in each group
- Majority of the residents at the recovery community were African American women.

### Data Collection Methods:
- Individual semi-structured interviews
- Photo-voice: participants take pictures and discuss them in individual and group interviews.
- Online web forums were searched
- Questionnaires provided socio-demographic data. Individual interviews explored experiences.

### Focus groups and participant observations
- Semi-structured interviews.

### Ethics:
- Ethical approval received.
- Informed consent obtained.
- Ethical approval received.
- Informed consent obtained.
- Ethical approval received.
- Informed consent obtained.
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- Informed consent obtained.