Communication of a mental health diagnosis: a systematic synthesis and narrative review

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Conflicts of interest: None

Background: There is limited understanding of the mechanisms used to effectively communicate with service-users about their mental health diagnoses. **Aims:** To conduct a systematic synthesis of studies that present data on the communication of a psychiatric diagnosis. **Methods:** Comprehensive database and manual searches were conducted resulting in the inclusion of thirty quantitative and qualitative papers. **Results:** The majority of studies were descriptive. The rate of service-users being informed of their diagnosis has increased over the last decade. Consumer communication preferences were not always satisfactorily addressed in practice. Individual characteristics of service-users and clinicians influenced whether a diagnostic discussion took place. Results from intervention studies aimed at facilitating diagnostic communication reported significant improvements in service-user satisfaction and mood, and clinician communication skills. **Conclusions:** This review highlights a gap in the system of communication between clinicians and services-users. To assist clinicians to talk effectively with individuals about their mental health, communication protocols and training need to be further developed and assessed. Such developments would benefit from well-designed randomised controlled trial protocols, should incorporate service-users' preferences and address stigma related concerns. **Declarations of Interest:** none

Key Words:

Mental health; Diagnosis; Communication models; breaking bad news

1. Introduction

At an individual level, a mental health diagnosis (MHD) can have an impact on a person's lifestyle, future choices and level of hope (Cleary et al.,2010a). From a macro perspective, the annual incidence of MHD remains high; UK rates for a depression diagnosis are fourteen per every thousand (Rait et al.,2009), and thirty two per hundred thousand for bipolar and psychotic related disorders (Kirkbride et al.,2012). Despite this high incidence and impact, there remains a limited understanding of how best to communicate diagnostic news (Cleary et al.,2009).

The DSM-V has prompted widespread discussion concerning the concepts, constructs and validity of MHD (Gornall,2013; Torjesen,2013; Wykes & Callard,2010). In practice, conflicting beliefs can make the subject of diagnosis challenging and ambiguous for clinicians and service-users. A clearer understanding of the information needs of service-users and strategies that may assist clinicians to communicate about MHD could prove practically useful. To assist clinicians to discuss diagnostic news effectively, oncology specialists have developed comprehensive guidelines (Clayton et al.,2007; Girgis & Sanson-Fisher,1995) and protocols (Baile et al.,2000; Rabow & McPhee,1999). In the mental health field, the specific treatment guidelines and recommendations (APA,2008; NICE,2002, 2006, 2009; RANZCP,2005) do not explicitly suggest that practitioners hold responsibility to disclose diagnoses nor do they outline how best to communicate such news (Hwang,2008).

There have been at least five papers providing viewpoints summarising the mechanisms involved in communicating MHD. All have been narrative literature reviews (Atkinson,1989; Cleary, et al.,2009; Lequesne & Hersh,2004; Mitchell,2007; Rose & Thornicroft,2010) that lacked systematic synthesis. Additionally, some focused on communication of news for subtypes of mental health issues (Atkinson,1989; Lequesne & Hersh,2004) or concentrated chiefly on making comparisons with the oncology field (Mitchell,2007). Given this growing evidence base, a systematic synthesis of literature, which includes a broad spectrum of MHD, has been called for in the literature (Cleary, et al.,2009).

1.2. Aims

We aimed to review the published literature to address six primary research questions:

i. What are the rates of receiving and providing a MHD;
ii. What is the impact of a diagnosis on individuals;
iii. What are factors influencing a diagnostic discussion taking place;
iv. What are the preferences and satisfaction levels of service-users when receiving diagnostic news;
v. What are the outcomes from interventions designed to improve communication relating to diagnosis; and
vi. What are the current recommendations for effectively communicating MHD?

2. Methods

2.1. Types of studies

A protocol for study inclusion and extraction was defined and evaluated by the authors. Both quantitative and qualitative data describing the provision or receipt of a MHD were considered. Commentaries, opinions, single case-studies, literature reviews and scale development were excluded.

2.2. Types of Participants

Included studies:

i. Presented data from either clinician and/or service-user samples;
ii. Included service-users aged 12 years and older; and
iii. Included MHD that met the following ICD-10 criteria (F20-F29: schizophrenia, schizotypal and delusional disorders; F30-F39: Mood [affective] disorders; F40–F48: Neurotic, stress-related and somatoform disorders, (WHO,1992) or the DSM-IV equivalent (APA,2000). Samples with mixed diagnoses were included.

2.3. Types of outcome measures

Outcomes reported in intervention studies were analysed post-intervention and at any further time points if applicable. Outcomes from descriptive and qualitative studies were used to add depth to the findings. Outcomes of interest included:

- Service-user focused outcomes (e.g. satisfaction, preferences, clinical change)

- Clinician focused outcomes (e.g. skills)
- Rates of diagnostic discussion

2.4. Literature search strategy

A systematic database search was conducted. PsycINFO, Medline and CINAHL were searched to locate studies published in English (1983 to September Week 1 2012) using the search terms: communicat* OR "breaking news" OR tell* OR disclosure, AND "mental disorders"* OR psychiatric OR "mental health", AND diagnos*. Google Scholar, GreyLit and Zetoc were searched and references were hand-screened. Abstracts were screened using the review protocol by the first author. Studies meeting full text inclusion criteria were reviewed by both authors to establish final review admittance. Inter-rater agreement was substantial (κ = 0.98). Discussion took place until consensus was reached.

2.5. Data Extraction, management and analysis

The first author extracted data which were reviewed by the second. Participant, intervention characteristics and outcomes for all available data were extracted. Data were reported as means, standard deviations, percentages and p-values as presented in original papers. No additional statistical analysis was performed due to lack of sufficient RCTs.

2.6 Evaluation of study evidence

An adapted quantitative evidence rating system (NHMRC,1999, 2000) was used. The level assigned reflects the degree to which bias has been eliminated by study design; with lower levels (e.g. L-I) corresponding with lower bias and higher quality methodology. This framework includes: (1) L-I: systematic reviews of randomized controlled trials (RCT); (2) L-II: RCTs; (3) L-III-1: pseudo-RCTs; (4) L-III-2: comparative studies with non-randomized concurrent controls, case-control studies or interrupted time series with control group; (4) L-III-3: comparative studies with historical control, two or more single-arm studies, or interrupted time series without parallel control; (5) L-IV-1: case series, either post-test or pre-test/post-test; and (6) L-IV-2: descriptive studies. Those meeting L-II criteria were further assessed using the Cochrane Collaboration Risk of Bias Tool (Higgins et al.,2011). Both authors independently rated for biases for: sequence generation; allocation concealment; blinding; selective outcome reporting; incomplete data; and other biases. Differences were resolved through discussion.

Qualitative studies are beneficial to systematic reviews (The Campbell Collaboration,2001), but rigor needs to be established (NHMRC,2006). Therefore a qualitative evaluation tool (NHMRC,2006) assessed such studies for (1) quality of aims, methodology, sampling strategy, and analysis; (2) evidence strength (range: 1 very low to 4 very high) and; (3) evidence relevance (range: 1 not applicable to 4 very applicable). Both authors independently rated each qualitative study using the criteria for each item. Differences were resolved through discussion.

3. Results

3.1. Literature search results

A total of 1851 records were obtained with fifteen identified through hand screening. Thirty studies met criteria for review after duplicate removal and screening (See Figure 1 for study flow).

[INSERT-FIGURE-1-ABOUT-HERE]

3.2. Evidence strength and study quality

3.2.1. Quantitative research (23 studies: Table 1)

Included papers are presented in Table 1. Most studies were descriptive (Level IV-2), thus weaker evidence strength should be considered when interpreting results. The risk of bias rating (Higgins, et al.,2011) is presented in Figure 2 for the RCT studies (Gerrity et al.,1999; Wong et al.,2007). Sequence generation was not sufficiently described in both trials. Risk of bias for concealment of the allocation sequence was low (Gerrity, et al.,1999) or unclear (Wong, et al.,2007). For both studies, blinding of assessors and participants created a low risk of bias, as did missing data (i.e. attrition bias). As neither RCT study registered their trial protocol, bias for selective outcome reporting was unclear.

[INSERT-TABLE-1-(LANDSCAPE)-AND-FIGURE-2-ABOUT-HERE]

3.2.2. Qualitative research (7 studies: Table 1)

Qualitative studies scored moderately to highly on the evaluation tool for quality and relevance, whilst study strength varied. Grounded theory studies lacked sufficient detail regarding checking methods to establish rigor (Buston,2002; Gallagher et al.,2010; Hwang,2008), and sample data to comfortably reach saturation (Gallagher, et al.,2010; Hwang,2008) as per recommendations on achieving maximum variation in data (Kuzel,1992).

3.3. Rates of diagnostic discussion

Rates of service-users receiving or having knowledge of their diagnosis were collected in nine (L-IV) studies (Cleary, et al.,2010a; Ganesan et al.,2011; Luderer & Bocker,1993; Magliano et al.,2008; Marzanski et al.,2002; Seedat et al.,2002; Shergill et al.,1998; Thornicroft et al.,2009; Trump & Hugo,2006). Studies conducted prior to the last decade, reported low rates of diagnostic discussion for both schizophrenia diagnoses and general MHD (30%-65%). In contrast, studies conducted in the past ten years reported higher rates of diagnostic discussion for both groups (77%-88%), with the exception of service-users who had immigrated (22%). Incorrect diagnoses were reported as occurring in three L-IV studies (Mead et al.,1997; Seedat, et al.,2002; Trump & Hugo,2006). This delayed help-seeking, required multiple doctors' involvement and typically took one to two years to receive a correct diagnosis (Seedat, et al.,2002; Trump & Hugo,2006).

3.4. Impact of a diagnosis

After receiving a diagnosis, individuals experienced a range of different reactions; including relief, viewing the diagnosis as validating or helpful to treatment, experiencing uncertainty, or rejecting the diagnosis as it pathologised issues or did not help individuals make sense of their situation (Buston,2002; Gallagher, et al.,2010; Lewis,1995; Wisdom & Green,2004). Two studies reported that clinicians not diagnosing resulted in the individual experiencing a sense of doubt regarding the validity of the challenges they faced (Lewis,1995) or feelings of distress due to the perception that they were not believed (Buston,2002). Poor communication at the time of diagnosis was confusing, as were multiple diagnoses (Gallagher, et al.,2010). Although many service-users did not believe excessive stigma was associated with receiving psychiatric treatment (Greenwood et al.,2000), anxiety about stigma was reported as a reaction to diagnostic news (Gallagher, et al.,2010). Due to stigma related concerns, individuals felt the diagnosis could impact on their social identity (Lewis,1995), their relationships with others (Magliano, et al.,2008;

Thornicroft, et al.,2009) and their willingness to share diagnostic information with others (Gallagher, et al.,2010). Furthermore it may cause strong sense of shame due to their cultural beliefs (Hwang,2008) or could lead to drop out from treatment (Seedat, et al.,2002). It was reported that individuals who held hope for future recovery had a less pronounced perception of affective and social difficulties as a result of a schizophrenia diagnosis (Magliano, et al.,2008).

3.5. Factors influencing diagnostic discussion

Factors that influenced diagnostic discussions taking place were reported in eight studies (L-IV evidence). The most frequently reported factor that influenced disclosure was the type of diagnosis (Clafferty et al.,2001; Cleary, et al.,2010a; Cleary et al.,2010b; Gantt & Green,1985; Green & Gantt,1987; McDonald-Scott et al.,1992; Shergill, et al.,1998). Schizophrenia was less frequently disclosed in service-user surveys (Luderer & Bocker,1993); with 45% not receiving any information compared to an average of 20% for other diagnoses. This was also the case in psychiatrist surveys (Clafferty, et al.,2001; Gantt & Green,1985; Green & Gantt,1987; Luderer & Bocker,1993; McDonald-Scott, et al.,1992; Shergill, et al.,1998), except when episodes were recurrent (Clafferty, et al.,2001). In these studies, a full schizophrenia diagnosis was disclosed at a lower rate (7 - 59%) when compared with other diagnoses such as depression (71-98%), bipolar disorder (61-96%) or anxiety related disorders (58-96%). Providing a substitute diagnosis in place of a schizophrenia diagnosis was reported as common practice (Clafferty, et al.,2001; Cleary, et al.,2010b; Luderer & Bocker,1993; McDonald-Scott, et al.,1992). Using a substitute term for schizophrenia was more frequent (53% of cases) compared to other diagnoses (13% on average; Luderer & Bocker, 1993). This remained the case even when exact diagnostic information was sought by service-users (McDonald-Scott, et al.,1992). Clinicians using substitute diagnoses was associated with service-users experiencing a poorer understanding of their condition (Luderer & Bocker,1993). The most frequent substitute for schizophrenia was psychosis, psychotic illness and major mental illness (Clafferty, et al.,2001). Stigma was reported as a reason why psychiatrists might not disclose diagnosis (Green & Gantt,1987; Hwang,2008; McDonald-Scott, et al.,1992). Health professionals felt that the information must be handled with extreme care and support (Clafferty, et al.,2001) such as discussing fears and concerns (Cleary, et al.,2010b) and actively reducing stigma (Levin et al.,2011).

Service-user characteristics influenced diagnostic discussion; including their likelihood of becoming distressed, insight, understanding of the diagnostic consequences (Cleary, et al.,2010a; Cleary, et al.,2010b), desire for information (McDonald-Scott, et al.,1992; Shergill, et al.,1998) and agreement between service-users and clinicians concerning the need for medication (Cleary, et al.,2010a; Cleary, et al.,2010b). Clinician characteristics influencing diagnostic discussion included the clinician's professional background (Gantt & Green,1985; Trump & Hugo,2006), their age, and time since qualification (Clafferty, et al.,2001; McDonald-Scott, et al.,1992). Clinicians who were psychiatrists, younger and newer to the profession reported more frequent diagnostic disclosure. External factors impacting on diagnosis included insurance and funding for treatment (Mead, et al.,1997).

3.6. Service-user preferences and satisfaction

Across studies, the majority of service-users (62% - 88%) wanted diagnostic information (Cleary, et al.,2010a; Jha et al.,2001; Magliano, et al.,2008; Marzanski, et al.,2002; Shergill, et al.,1998) and indicated that they felt they had a right to access diagnostic information (Clafferty, et al.,2001; Cleary, et al.,2010a; Luderer & Bocker,1993; Magliano, et al.,2008; Shergill, et al.,1998) . Six studies recommended that services should account for service-user preferences and needs when discussing MHD (Clafferty, et al.,2001; Cleary, et al.,2010a; Luderer & Bocker,1993; Magliano, et al.,2008; Marzanski, et al.,2002; Shergill, et al.,1998). Preference for information varied across psychiatric settings. Hospital based service-users did not want diagnostic information in 28% of cases when in an acute ward setting (Marzanski, et al.,2002) and 10-12% in general in-patient settings (Cleary, et al.,2010a; Shergill, et al.,1998). Only 0-5% did not desire information when accessing community based support (Magliano, et al.,2008; Shergill, et al.,1998).

A total of thirty-two separate items from five studies (L-IV evidence), have been included in surveys to describe and assess service-users' preferences and satisfaction towards MHD communication. Table 2 presents items that either aid facilitation of a diagnostic discussion or outline conversation content. The majority of evidence for preferences and satisfaction is extracted from one study (Cleary, et al.,2010a). Service-users reported lower satisfaction with the delivery of diagnostic communication items such as information on the specific illness, medication side effects and treatment options than the level of importance they attached to the item. Qualitative studies supported this finding as a gap between service-users information preferences and satisfaction was reported (Buston,2002; Greenwood, et al.,2000; Lewis,1995).

[INSERT-TABLE-2-ABOUT-HERE]

3.7. Outcomes from interventions

Data reporting service-user and clinician outcomes from six intervention studies are presented in Table 3. Two studies achieved L-II evidence with low risk of bias (Gerrity, et al.,1999; Wong, et al.,2007), three received L-III evidence (Eisenthal et al.,1983; Holm–Denoma et al.,2008; Scardovi et al.,2003) and one was categorized as a L-IV study (McNeilly & Wengel,2001). For service-user outcomes, diagnostic feedback had positive effects on mood, with no evidence of negative impacts (Holm–Denoma, et al.,2008). Six of nine diagnostic communication strategies were significantly correlated with service-user satisfaction (Eisenthal, et al.,1983). For clinician related outcomes, training resulted in significant improvements in GPs' communication skills (Gerrity, et al.,1999; Scardovi, et al.,2003; Wong, et al.,2007), and medical students' knowledge and attitudes (McNeilly & Wengel,2001) across fourteen items. The remaining items did not result in significant improvements. No studies reported any negative impacts for clinician or service-user outcomes.

[INSERT-TABLE-3-ABOUT-HERE]

3.8. Protocols for MHD communication

Development of protocols was recommended in six studies (Clafferty, et al.,2001; Cleary, et al.,2010a; Cleary, et al.,2010b; Hwang,2008; Levin, et al.,2011; McNeilly & Wengel,2001) and are presented in table 4. The SPIKES protocol was most frequently utilized as a communication tool in the development of questionnaires (Cleary, et al.,2010a; Cleary, et al.,2010b) and training (McNeilly & Wengel,2001). This is a framework borrowed from oncology where it was developed to synthesize information in a stepwise fashion (See Table 4; (Baile, et al.,2000)) and has been found to be effective, even after extensive clinical research (Cleary, et al.,2009). The six SPIKES steps include: Setting up the interview; assessing the individual's Perception of their medical circumstances;

obtaining their Invitation to receive the information; giving the requisite Knowledge; responding Empathically to emotions; and Summarizing the treatment processes. Additionally, Levin and colleagues (2011) presented a model for communicating news specifically related to schizophrenia, and Hwang (2008) presented guidelines that address cultural issues when delivering diagnostic information. No protocols have been assessed in terms of their clinical effectiveness in the mental health field.

[INSERT-TABLE-4-ABOUT-HERE]

4. Discussion

4.1. Summary of findings

Globally over the last thirty years, there is evidence of a shift towards more open disclosure of MHD. Schizophrenia, remains less openly discussed. This review found that there is scope for service improvements, as a gap between the information preferences of service-users and their level of satisfaction with diagnostic discussion was present in both quantitative and qualitative studies. Mental health facilities should account for service-user preferences and needs when discussing MHD, which may vary across psychiatric settings and across cultures. Although the evidence is currently limited, intervention studies reported significant benefits to information giving with no evidence of negative outcomes (L-II and L-III evidence). Negative impacts, such as stigma associated with diagnosis, were reported by some service-users in qualitative and descriptive studies (L-IV).

Development of detailed protocols for communicating a MHD has been recommended to address communication gaps and facilitate a supportive discussion. Such communication models may feed into clinician or student training. Although communication interventions have improved elements of clinician communication the evidence remains incomplete. This is attributable to current limited evidence from RCT protocols, reliance on small samples and a lack of assessment of service-user outcomes. Furthermore, data have been gathered for intervention studies from a narrow range of professional groups (GPs and medical students only) which limits the generalisability of intervention results.

4.2. Comparisons with other reviews

These findings are supported in previous narrative discussion papers. Overall, individuals maintain an overall right to information (Atkinson,1989; Cleary, et al.,2009). However a communication gap exists, as clinicians underestimate the desires of service-users to access information about their own condition (Rose & Thornicroft,2010). Some suggested benefits to open diagnostic communication include increased service-user autonomy and collaboration (Lequesne & Hersh,2004), improved access to information concerning features, associations and treatment, and an increased sense of efficacy towards self-management (Lequesne & Hersh,2004; Rose & Thornicroft,2010). An attempt to address stigma is also essential (Rose & Thornicroft,2010). To date, outcomes of positive diagnostic interactions have not been fully assessed and systematic research into delivering MHD is required (Cleary, et al.,2009). Reviews have suggest that the SPIKES protocol may be of practical use when guiding such ventures (Cleary, et al.,2009; Seeman,2010) which now may be expanded to include other models.

4.3. Limitations

The majority of reviewed studies were descriptive, resulting in weaker evidence. This limitation was expected due to the exploratory nature of the research aims, which is a issue also found in diagnostic communication reviews for oncology (Fujimori & Uchitomi,2009). Furthermore, as this is an under researched area, there are few studies reporting data that address this review's specific research questions. This may ultimately bias results towards these studies findings. Despite these issues, the research can still be viewed as integral to understanding the factors associated with communicating MHD and developing pathways for future research.

4.4. Implications for Research

Despite the complexities in undertaking RCT research compared to gathering descriptive data, this is an essential next step. There is particular scope for clinician training, with qualitative research remaining a useful adjunct that provides greater depth of understanding to the diagnostic experience. Development of communication protocols may be a useful guide to training, but there are current existing limitations. Firstly, the SPIKES protocol has been borrowed from oncology. At face value the protocol fits within a mental health context (see Table 4); however, more rigorous evaluation of its suitability in psychiatric settings is essential. For example, themes raised in qualitative and descriptive studies, such as stigma, are not directly addressed. Actively addressing stigma stress associated with diagnosis may be crucial to future psycho-educational study designs, particularly as individuals who hold hope for future recovery reported fewer perceived social difficulties due to diagnosis (Magliano, et al.,2008). The model offered by Levin and colleagues (2011) is specifically tailored to discussing schizophrenia diagnoses and addresses stigma. Its application to other MHD should be explored. Furthermore, this model was developed through gauging the views of psychiatry alumni. It is possible that practitioners of other clinical disciplines, service-users and carers may offer unique and valuable perspectives. Broadening the consultation process, as was done in the development of oncology-related consensus guidelines (Clayton, et al.,2007), is recommended. Furthermore, further research is needed to understand whether the fundamental principles of communication should remain the same across various mental health contexts, particularly as information preferences varied across psychiatric settings and across cultures.

4.5. Implications for practice

Communication protocols may provide a foundation for clinician training. The current evidence for the efficacy of training shows promise, but is limited in terms of quality and quantity. Providing training to improve clinician competencies was viewed as a priority (Cleary, et al.,2010b; Gerrity, et al.,1999; Jha, et al.,2001; Luderer & Bocker,1993; Scardovi, et al.,2003; Shergill, et al.,1998; Wong, et al.,2007), and surveyed clinicians indicated a need and willingness to undertake training (Cleary, et al.,2010b). A future educational agenda should be developed and evaluated both systematically and rigorously considering the current research and limitations.

4.6. Conclusions

Given growing awareness and high incidence of mental health conditions in the community, there is a need to understand how best to initiate a conversation with individuals about their mental health, and where necessary, to communicate a diagnosis. Communication protocols are presented in the literature, but there is yet to be an empirically tested overarching model informing training specific to mental health. Overall, the literature presented calls for an open dialogue that discusses information in a clear, person-centred, collaborative manner that incorporates service-users' preferences, individuals' rights and addresses stigma related concerns. These underlying principals may pave the way for future well-designed clinician training and protocol development that supports the individual whilst accounting for the complexities inherent in the mental health field.

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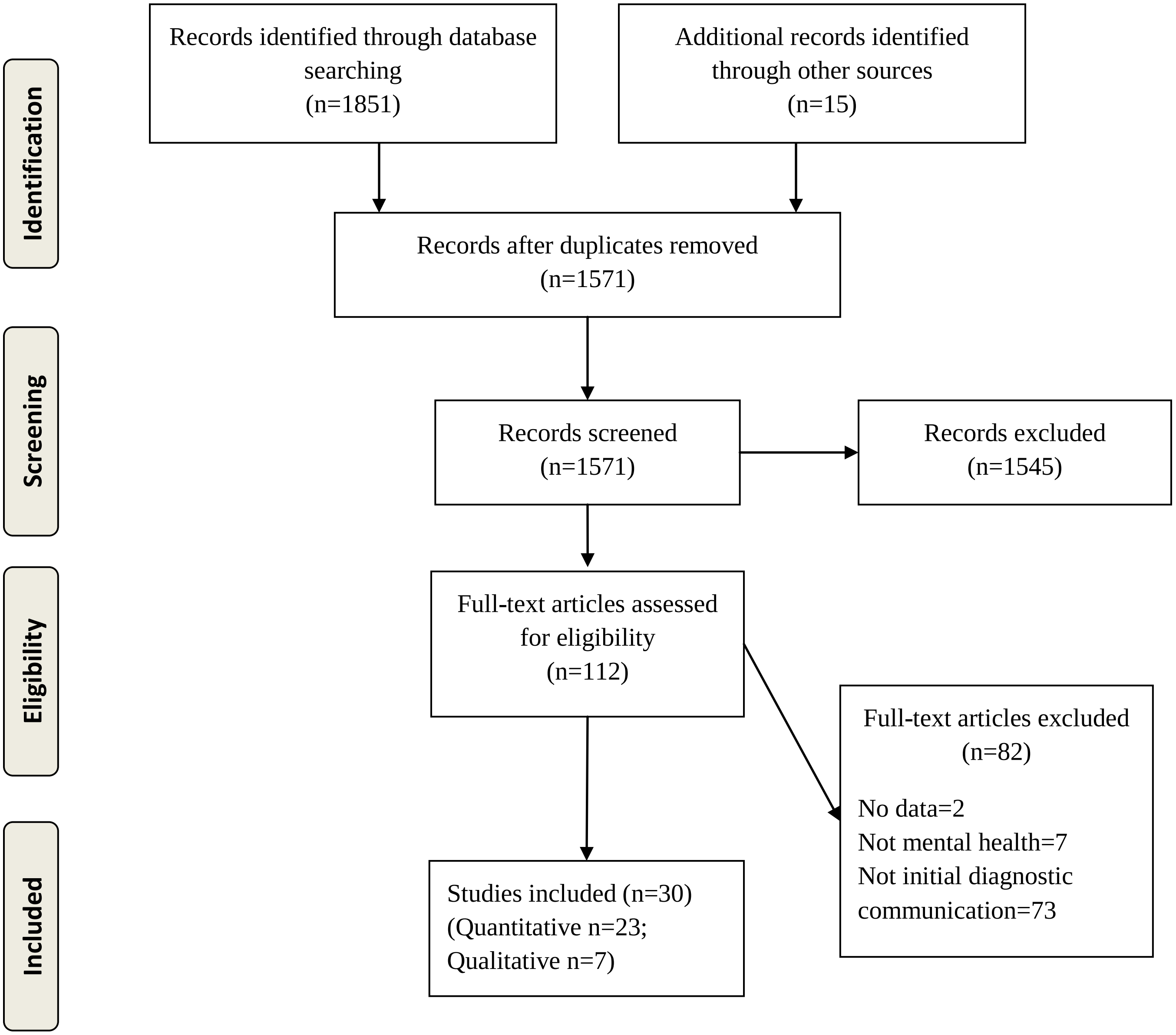

Figure 1. Study Flow

Table 1. Reviewed Studies

Reference	Target Group; Target Mental Illness	Evidence Level	Country; Location	Study Design	Sample Size; Response-rate
[1] (Wong, et al.,2007)	Clinicians(GPs); Depression & Anxiety	II	Hong Kong; Outpatient(primary)	RCT; convenience sample; cross-sectional recruitment; blinding at assessment.	32; not-reported(20% drop-out rate)
[2] (Gerrity, et al.,1999)	Clinicians(GPs); Depression	II	USA; Outpatient(primary)	RCT; convenience sample; cross-sectional recruitment; blinding at assessment.	49; not-reported(12.5% drop-out rate)
[3] (Jha, et al.,2001)	Service-users(Geriatric); Depression & Dementia*	III-2	UK; Outpatient(secondary)	Comparative studies with non-randomized concurrent controls; convenience sample; consecutive recruitment.	53(Dementia), 47(Depression); 89%
[4] (Scardovi, et al.,2003)	Multifocal(GPs & service-users); Mental illness	III-3	Italy; Outpatient(primary)	Interrupted time series without parallel control; convenience sample GPs & service-users; consecutive recruitment of service-users; blinding at assessment.	9 (GP), 515 (service-users); not-reported (0% drop-out rate)
[5] (Eisenthal, et al.,1983)	Multifocal(Service-users & Clinicians); Mental illness	III-3	USA; Outpatient(secondary)	Comparative study without a parallel control group; consecutive sample; randomization at recruitment; blinding at assessment.	44; 88%
[6] (Holm–Denoma, et al.,2008)	Service-users; Mental illness	III-3	USA; Outpatient(secondary)	Interrupted time series without parallel control; consecutive convenience sample.	53; not-reported(21% drop-out rate)
[7] (Luderer & Bocker,1993)	Multifocal(Service-users & psychiatrists); Mental illness	III-3	Germany; Inpatient	Comparative study without a parallel control group; convenience samples; consecutive recruitment.	230; 76.5%(23% drop-out rate)
[8] (McNeilly & Wengel,2001)	Clinicians(Medical students); Mental illness	IV-1	USA; Student training facility	Pre/post test; convenience sample; recruitment of cohort.	72; 100%(4% drop-out rate)
[9] (Shergill, et al.,1998) *Part 2*	Multifocal(Service-users); Mental illness	IV-1	UK; Outpatient(secondary)	Pre/Post test; convenience sample; cross-sectional recruitment.	23; 85%
[10](Cleary, et al.,2010a)	Service-users; Mental illness	IV-2	Australia; Inpatient	Descriptive; convenience sample; consecutive cross-sectional recruitment.	100; 71%
[11](Cleary, et al.,2010b)	Clinicians; Mental illness	IV-2	Australia; Mental health facility	Descriptive; convenience sample; cross-sectional recruitment	78; 32%
[12](Ganesan, et al.,2011)	Service-users(Immigrated); Mental illness	IV-2	Canada; Outpatient(secondary)	Descriptive; convenience sample; consecutive recruitment.	173; 46%
[13](Thornicroft, et al.,2009)	Service-users; Schizophrenia	IV-2	Global; Community(various)	Descriptive; representative convenience sample; cross-sectional recruitment.	732; not-reported
[14](Magliano, et al.,2008)	Service-users; Schizophrenia	IV-2	Italy; Community(various)	Descriptive; representative convenience sample; consecutive recruitment.	250; 96%
[15](Trump & Hugo,2006)	Service-users; Mental illness	IV-2	South Africa; Community(various)	Descriptive; representative convenience sample; cross-sectional recruitment.	331; not-reported
[16](Marzanski, et al.,2002)	Service-users; Mental illness	IV-2	UK; Inpatient	Descriptive; convenience sample; cross-sectional recruitment.	35; 66%
[17](Seedat, et al.,2002)	Service-users; Mental illness	IV-2	South Africa(S.A.) and International(I);	Descriptive; representative convenience sample; cross-sectional recruitment	404(S.A.); 3516(I); 40%(S.A.)

* Please note: In depth analysis of dementia is outside the scope of this review.

			Community(various)		
[18](Clafferty, et al.,2001)	Clinicians(Psychiatrists); Mental illness	IV-2	Scotland; Outpatient(secondary; various)	Descriptive; convenience representative sample; cross-sectional recruitment.	246; 76%
[19](Wang et al.,2000)	Service-users; Mental illness	IV-2	International; Community(various)	Descriptive; convenience representative sample; cross-sectional recruitment.	3,516; 60%
[9](Shergill, et al.,1998) *Part 1*	Multifocal(Service-users); Mental illness	IV-2	UK; Inpatient	Descriptive; convenience sample; cross-sectional recruitment.	173; 72.8%
Part 3	Multifocal(Psychiatrists); Mental illness	IV-2	UK; Inpatient/outpatient(various)	Descriptive; convenience sample; cross-sectional recruitment.	24; 82%
[20](Mead, et al.,1997)	Clinicians(Mental health counselors); Mental illness	IV-2	USA; Community, outpatient/inpatient(various)	Descriptive; representative convenience sample; randomized cross-sectional recruitment.	380; 70.7%
[21](McDonald-Scott, et al.,1992)	Clinicians(Psychiatrists); Mental illness	IV-2	Japan & USA; Community/outpatient(various)	Descriptive; representative convenience sample; cross-sectional recruitment.	166(Japan), 112(USA); 51-68%
[22](Green & Gantt,1987)	Clinicians(Psychiatrists); Mental illness	IV-2	USA; Inpatient/outpatient(various)	Descriptive; representative convenience sample; cross-sectional recruitment.	272; 90%
[23](Gantt & Green,1985)	Clinicians; Mental illness	IV-2	USA; Inpatient/outpatient(various)	Descriptive; convenience sample; cross-sectional recruitment.	132; 88%(social workers); other groups not-reported
[24](Levin, et al.,2011)	Clinicians(Psychiatrists); Schizophrenia	Level:5/8 Strength: 2/4 Relevance:3/4	USA; Community(Online)	Qualitative Thematic analysis; online convenience sample.	not-reported; not-reported
[25](Hwang,2008)	Clinicians(Psychiatrists); Schizophrenia	Level: 5/8 Strength: 1/4 Relevance:3/4	USA; Outpatient(secondary)	Qualitative Thematic analysis; convenience sample.	4; 100%
[26](Buston,2002)	Service-users(Adolescent); Mental illness	Level: 5/8 Strength: 2/4 Relevance:3/4	UK; Outpatient(secondary)	Qualitative Grounded Theory; convenience sample.	32; not-reported
[27](Greenwood, et al.,2000)	Multifocal(Service-users & carers); Mental illness	Level: 6/8 Strength: 2/4 Relevance:3/4	UK; Outpatient/community	Qualitative Grounded Theory; convenience sample.	14(Service-users), 10(carers); 70%
[28](Gallagher, et al.,2010)	Service-users; Mental illness	Level: 5/8 Strength: 2/4 Relevance:3/4	UK; Inpatient/Outpatient	Qualitative Grounded Theory; convenience sample.	10; not-reported
[29](Wisdom & Green,2004)	Service-users(Adolescent); Depression	Level: 6/8 Strength: 2/4 Relevance:2/4	USA; Community	Qualitative Grounded Theory; convenience sample.	22; not-reported
[30](Lewis,1995)	Service-users; Depression	Level: 7/8 Strength: 3/4 Relevance:3/4	UK; Outpatient/Community	Qualitative Grounded Theory; convenience sample.	48; not-reported

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding (performance bias and detection bias)	Incomplete outcome data (attrition bias)	selective outcome reporting (reporting bias)	Other bias
Gerrity et al.(1999)	?	+	+	+	?	+
Wong et al.(2007)	?	?	+	+	?	+

Figure 2. Risk of Bias Summary for Level II RCTs

Table 2. Items involved in delivering MHD

Item	References
Facilitation	
Preferred Psychiatrist/Doctor available	[9,10,16]
Service-user involvement	[10]
Family involvement	[10]
Sufficient time for conversation	[10]
Timely information provided	[10]
Ensuring privacy	[10]
Staff honesty	[10]
Empathy	[10]
Hope	[10]
Respond to feelings/emotions	[10]
Listening & Supporting	[10]
Staff tact	[10]
Content	
Explore the service-user's understanding of the situation	[10]
Medication side-effects	[10]
Support groups	[10]
Written information	[3,10]
Useful websites	[10]
Community resources	[10]
Treatment option information	[10,16]
Medication benefits explained	[10]
Illness specific information	[10,16]
Typical symptoms expected	[10]
Etiology	[16]
Diagnosis	[10,14,16]
Prognosis	[10,16]
Explain what to expect	[10]
Accurate/reliable information	[10]
Discuss fears/concerns	[10]
Check if more information is wanted	[10]
Check understanding	[10]
Plan next steps	[10]
Ensure questions answered	[10]

Table 3. Impact of Interventions: clinician skills, service-user satisfaction and mood

Item	Service-user Satisfaction	Service-user Mood (+ive)	Clinician Skills	Reference
Facilitation				
Clinician awareness of counter-transference			S↑	[8]
Clinician awareness of boundaries			S↑	[8]
Clinician awareness of diagnostic communication strategies			S↑	[8]
Initiate discussion			NS↑	[1]
Structure consultation			NS↑	[1]
Understand patient’s perspective			NS↑	[1]
Active listening & facilitating service-users response			S↑	[1]
Seek service-users views	S		NS↑	[4,5]
Assess service-user satisfaction			NS↑	[2]
Rapport			NS↑	[2]
Non-verbal communication skills			NS↑	[1]
Clinician use of authority	NS			[5]
Gives supportive feedback			S↑	[3]
Manner in which plan is raised by clinician	NS			[5]
Scheduled follow up			NS↑	[1,2,4]
Participatory decision making consensus	S		S↑	[2,5]
Establish realistic goals			S↑	[4]
Promote problem solving			NS↑	[4]
Closure			NS↑	[1]
Content				
Physical treatment information			NS↑	[4]
Psychological treatment information/explanation	S		S↑	[4,5]
Advice on mental health management			S↑	[4]
Relate information to referral reason			S↑	[4]
Examine specific examples			S↑	[4]
Discussed possibility of mental illness			NS↑	[1,2]
Provide Diagnostic Feedback		S↑		[6]
Prescribe Medication			NS↑	[1]
Discuss Medication			S↑	[4]
Relate diagnosis to problems	S		S↑	[4,5]
Clear explanation and planning	S		NS↑	[1,5]
Negotiating mutual plan			S↑	[1,4]
Clear of rationale behind treatment plan	S			[5]
Match of treatment plan to the service-users initial request	NS			[5]

(S): significant correlation; (S↑): significant increase; (NS): non-significant correlation; (NS↑): non-significant increase; (blank): not assessed

Table 4. Various models for communicating a MHD

SPIKES Protocol	**Additional recommendations for communication diagnostic news**
Setting up the interview.	[24] Prepare for meeting. [25] Clinicians assess own feelings and motivations towards disclosure; ensure the right timing by establishing a relationship and ensuring symptoms have stabilized; include family in process; use status of authority figures to promote service-user participation in process; coordinate mental health services.
Assessing the patient's **P**erception of their medical circumstances.	[24] Reviewing service-users and carers understanding of schizophrenia.
Obtaining the patient's **I**nvitation to receive the information.	[24] Negotiating agenda collaboratively, maximizing care engagement.
Giving the requisite **K**nowledge and information.	[24] Communicate diagnosis; discuss prognosis, treatment and meaning of "schizophrenia"; provide education and promote a recovery framework. [25] Demystify treatment process; provide balanced psycho-education with mind body and spirit; promote independence and self management; provide psycho-education hand-outs. [6] Introduce agenda; reflect main symptoms the service-user reported; disclose diagnosis; provide information; give assurance that the clinician has knowledge of treatments; advise to guard against misinformation; answer questions.
Responding **E**mpathically to the patient's Emotions as a consequence of the news.	[24] Providing empathy; reduce stigma. [25] Normalize; decrease stigma.
Summarize the treatment processes and next few Steps.	[24] Summarizing session, plan follow-up. [25] Follow-up.