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The Role of Psychiatric Drugs and their Minimal-Medication Alternatives in the Treatment of Schizophrenia

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Abstract

Throughout this report I will be discussing reasons why our current psychiatric system needs improvements concerning the use of psychiatric drugs and how they may not be the answer to the symptoms of schizophrenia. This is an important topic to study considering the health dangers that patients are faced with today as a result of their illness and the medication used for it. I have researched the high success rates of alternative, minimum medication programmes, like open dialogue, which have greater focus on psychotherapies, as opposed to antipsychotic drugs. I have discussed the fundamental flaws with our accepted ideas of schizophrenia, and the implications this neurobiological research has for treatments. I have highlighted the problems with the psychiatric pharmaceutical industry, (particularly drug trials) which markets drugs in a misleading way, creating a paradigm where psychiatrists rely heavily on antipsychotics to stabilise their patients. This is not the best solution for the long term health of patients. I have concluded in this report that improvements to our system through increased integration of psychotherapies and lower dosages of psychiatric drugs, would greatly impact the quality of treatment that schizophrenic patients receive.

Keywords: Psychiatric; Drugs; Health; Schizophrenia; Neurotransmitter

Introduction

Schizophrenia is a mental illness surrounded by conflicting ideas concerning its treatment. According to the American psychiatric association's manual, the DSM-5, schizophrenia can be classified by positive symptoms (such as hallucinations), negative symptoms (such as lack of speech), psychotic episodes and general dysfunction, for at least six months [1,2]. Since the medieval years and the emergence of asylums, there has been a lot of confusion as to what schizophrenia actually is, from witchcraft to devil possession [3]. Today, we are faced with two main ideas. The first is the widely accepted idea that schizophrenia is of biological basis and must be treated with antipsychotic drugs [4] in order to correct the disrupted brain chemistry. The second is schizophrenia as a cognitive disorder of disrupted thoughts, with symptoms acting as defence mechanisms for the patient to cope. It is thought that psychotherapies can help rationalise the psychosis of the patient [5]. It seems logical to accept that schizophrenia can have elements of both of these contrasting views, thus treatment should involve all aspects of the patient's mental health. However, today's paradigm places medications at the centre of psychiatry; other therapies merely compliment it when necessary [6]. I am going to explore whether medication really is the best treatment for patients with schizophrenia, and the possibility of finding alternative approaches that could work in conjunction with our current system.

Psychiatry is a branch of medicine which believes that psychiatric symptoms are a result of underlying issues with biological pathways, with neurotransmitter, gene and brain structure hypotheses being most popular. The most widely accepted cause of schizophrenia is the dopamine hypothesis - over activity of dopamine in the brain due to increased transmission at the D2 synapses is what causes the positive symptoms of the illness (like delusions) [4-7]. The only reason that this theory has come about, is due to the 1950's pioneer drug chlorpromazine. It remains a benchmark drug for the treatment of schizophrenia [8] and has an impact on dopamine transmission, and subsequently the reduction of psychotic symptoms. This reduction highlights the fact that perhaps neuroleptics are not intended to completely cure the patient, but make their symptoms more manageable. With such limited evidence or concrete mechanisms, it seems that drug researchers have merely assumed by association the effects of lowering dopamine in reducing psychosis, inspired by chlorpromazine. Support for the dopamine theory comes from the fact that the only effective antipsychotics (neuroleptics) we have involve reduction of dopamine transmission. The conclusion being that the hyper function of dopamine must be the key element of psychosis [7]. Support comes from drugs for Parkinson's disease and amphetamines (both of which decrease dopamine transmission) being able to induce psychosis in otherwise mentally stable people [9].

This idea has served psychiatry well for the past 70 years, yet there are major flaws in the logic. With this reasoning, neuroleptics should be comparable to other drug treatments in the medical profession. For example, diabetes, a medical problem with a distinct cause (lack of insulin), can be treated with insulin and 100% of patients experience alleviated symptoms. Yet with psychiatry and schizophrenia in particular, response to drugs is unpredictable, lacking convincing evidence. If excessive dopamine is the cause, neuroleptics which reduce this, should instantly decrease symptoms in all cases, yet response rate can be as low as 44% according to recent studies [10]. One conclusion drawn from this is that although the dopamine hypothesis is the most substantial hypothesis we have, it cannot be the sole cause of illness, otherwise neuroleptics could 'cure' schizophrenia in everybody. Simply because these drugs act on dopamine, doesn't mean that the problem originates in the dopamine system (Tables 1-4).

Findings: The blind leading the blind - the flaws of our current medication-based system

As mentioned earlier, psychiatrists prescribe drugs without entirely

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understanding the effects they have on the brain. It is by chance whether the patient responds well or not. Moncrieff, a prominent member of the anti-psychiatry movement, comments on this as she notices how most psychiatrists and governmental promotions simply refer to schizophrenia as a 'chemical imbalance of the brain'. However, no attempts are made to explain the specific chemicals involved, nor the extent of such an 'imbalance' [11]. Neuroleptics have extremely high sedation power and serious side effects, perhaps a risky way to provide treatment 'playing by ear' [12].

In 2007, the Healthcare Commission, England, found that 98-100% of psychiatric patients were prescribed drugs, and 90% of the patients outside of psychiatric hospitals were [13], proving their domination throughout psychiatric practice. Psychiatric drugs produced are named and classified according to the mental illness they are thought to act on. This is the disease centred model, meaning the drugs are targeted towards organic abnormalities of the brain to rectify them [14]. Though we don't know exactly what causes schizophrenia, drugs are still marketed as if we do. Seeming too important not to use, they are made

Monday (6.5 hrs)	Prior to meeting with convenor, spent the weekend reading over a selection of materials relevant to the SSM. Meeting with convenor, discussed Articles and films. I now have more of an idea of the SSM topic.
Tuesday (5 hrs)	Visited the library for relevant books on the topics of psychotherapy and psychiatry Started reading the textbooks of the topics to get some background knowledge.
Wednesday (4.5 hrs)	Made a glossary of key terms which keep appearing understanding the basics, doing further basic reading from texts.
Thursday (4 hrs)	Focused on some antipsychiatry viewpoints, reading Szasz and studying chamber-lin. Picked out key points from the Luc Ciompi study.
Friday (7 hrs)	Watched open dialogue and read articles about how effective this treatment is Made notes on general ideas about alternative therapies.
Saturday (7 hrs)	Made a reading list of books to study, based on the influences of those already read. (mad in America, the myth of the chemical cure and the myth of mental illness) and began looking. Through references of articles to see where the original viewpoint came from and seeing whether I agree with how the author has interpreted the studies.
Sunday (6.5 hrs)	Found a resource called 'First do no harm' which has inspired me to look further into the flaws in the psychiatric system today Reading mad in America has also given me ideas about focusing on the pharmaceutical industry problems.

Table 1: Monday 18th January – Sunday 25th January.

Monday (7 hrs)	Meeting with convenor, decided to focus more on the psychiatry vs. psychother-apy debate in terms of effectiveness and ways to change the system Watched Soteria houses film.
Tuesday (4 hrs)	Pro-psychiatry perspectives reading bad pharma and genetics of schizophrenia to provide the contrary evidence to the argument I will propose.
Wednesday (9 hrs)	Thematic analysis; organising the 20 articles read so far into categories; Pro meds, Anti meds, Pro Psychotherapy, Anti psychotherapy, Personal experiences in the psychiatric System, Supporting a change in psychiatric system, Alternatives to drugs.
Thursday (8 hrs)	Article reading for schizophrenia reviews to get knowledge about what all of these studies actually conclude about the illness and how solid the evidence is. Inspired me to look at the Issues with psychiatric drug trials as proof for how drugs may not be as effective as they seem.
Friday (7.5 hrs)	Reading the myth of the chemical cure by Joanna Moncrieff and studying the references used for her claims. Broad range of studies to use as statistical evidence against the use of neuroleptics.
Saturday (5 hrs)	Made a list of possible titles after reading some extra articles has made me certain that I want to study the debate between drugs and their alternatives.
Sunday (6.5 hrs)	Read all over notes and picked out key readings to discuss with my convenience or tomorrow. Mind map of possible formats of the SSM an which viewpoints to consider.

Table 2: Monday 26th January – Sunday 1st February.

Monday (5.5 hrs)	Meeting with convenor, have solid ideas which I feel ready to start writing ideas. Started writing a brief summary of the points I want to include. Did some extra readings to refresh my memory as I went along.
Tuesday (9 hrs)	Started my first draft, getting the basic ideas down without worrying too much about the structure or flow at this point.
Wednesday (7 hrs)	Refined the first draft and sent off to convenor.
Thursday (8 hrs)	Convenor returned the first draft with lots of helpful feedback for me to correct and improve. Wrote the abstract and structured the SSM.
Friday (6 hrs)	Continued to improve the first draft by making arguments clearer and straight to the point.
Saturday	
Sunday (3.5 hrs)	Sent off a second draft to convenor after more readings and adding final references on endnote software.

Table 3: Monday 2nd – Sunday 8th February.

Monday (5.5 hrs)	Noticed some extra annotations on the feedback which was very helpful to me. Started to rework some of the arguments included in my report so they are easier to follow for those with no prior knowledge on the subject.
Tuesday (9 hrs)	Worked on final draft, making certain anti-psychiatry arguments less personal and rhetorical, and trying to make them seem more concrete ideas.
Wednesday (7 hrs)	Sent off final draft to convenor. Formatted references in Vancouver style and rewatched open dialogue film to improve the quality of my alternatives argument.
Friday (6 hrs)	Final read through and small changes before submission.

Table 4: Monday 9th February –Friday 13th February.

to sell [15]. The quantity of studies claiming psychiatric drugs may not be our 'gold standard', causes conflict. The life changing side effects and low recovery rates of neuroleptics are viewed in a new light. Given this new evidence, why are neuroleptics still portrayed as the only option?

Moncrieff states that when patients are admitted to psychiatric hospital, their prescriptions include a variety of psychotropic medications like neuroleptics, benzodiazepines and mood stabilisers. She argues that it is often difficult to see in day to day clinical practise whether neuroleptics significantly affect patients, due to the interactions with other drugs [11]. For example, there is persuasive evidence that neuroleptics are of equal effectiveness when compared to sedatives for reducing psychotic symptoms. Of course, neuroleptics work, and often this approach is necessary when a patient is uncontrollable [4], so that psychiatrists can assess the situation of the psychotic episodes. Yet, can it be proven that neuroleptics actually treat the origins of the illness? [11]. Long term, it is questionable as to whether psychiatrists are simply masking the symptoms with sedative drugs.

Across 15 of the main antipsychotics, effects on symptoms varied from as much as a -1.03 decrease to only a -0.2 decrease, showing the large variation in the outcomes between the neuroleptics, [12] which supposedly, all act on the same areas of the brain [7]. This makes the argument for the necessity of neuroleptics much less convincing. In some cases they barely affect the 'chemical imbalances' they are supposed to. Disturbingly, mentally stable patients prescribed neuroleptics for other reasons, can actually develop psychotic episodes when the medication is stopped [16]. This highlights that the action of neuroleptics may not actually be correcting a chemical imbalance, but creating one. This idea is compatible with the lifetime prescriptions of neuroleptics that most schizophrenic patients receive, indicating the necessity to maintain this new artificial balance [17,18].

The high risk of severe side effects with excessive use of neuroleptics is a cause for concern, including tardive dyskinesia, parkinsonian effects, dramatic weight gain and many more [19]. Seeman and Kapur [20] concluded that blocking 65% of the D2 receptors produced the maximum therapeutic effect for schizophrenic symptoms. However, alarmingly, just a 5% increase (70-80% blockade) could produce the serious Parkinson's disease symptoms [20], proving how small the therapeutic window is before side effects are prominent.

Hogarty et al. seemingly proved the dramatic success that neuroleptic drugs can have in the long term; 80% relapse rate without the use of medications and only 20-40% when using them long term [21]. Evidence like this makes the use of psychiatric drugs unquestionable, since the rate of relapse could potentially drop by 75% according to these statistics. Yet when compared to refined studies such as Carpenter who classified relapse as rehospitalisation specifically, differences in outcomes between groups plummets to only 17% [22]. This highlights the need for standardisation across trials of psychiatric drugs when comparing results.

Furthermore, it has been argued that the trialling of neuroleptics has been poorly designed. The experimental group will have treatment of the neuroleptic to be tested, whilst the control group will stop taking their current medication and take a placebo instead. This immediately places the placebo group at a disadvantage, by rapidly changing brain chemistry that has been so consistent when taking antipsychotic medication regularly, the patient will experience withdrawal symptoms, comparable to the onset of psychosis [23]. This could lead to researchers and drug developers concluding that the new medication is more effective than no medication at all (the placebo), thus more and more neuroleptics can be created and psychiatry regains its place at the top of the mental health hierarchy. Ethically, considering the severity of schizophrenia, when the placebo group are being studied, they should be offered some alternative therapies in order to sustain their mental health and not encourage relapse. However, this is rarely the case, resulting in skewed data.

Remarkably, spending on psychotherapeutic drugs in America has increased by 2.5 times between 1997 and 2004 [11]. Evidence like this makes it challenging to believe that the obviously high accessibility, alongside the increased use of neuroleptic drugs, has done anything to refute schizophrenia's persistent nature. On the whole, outcome rates are low for such a prominent and debilitating mental illness, as low as 14% recovery after first episode of psychosis [24]. One of the most striking studies used in favour of the anti-psychiatry movement is from Harrow, after 15 years, those on medication actually had less recovery (5-17%) than those without (40%). Harrow M et al. [25] suggested that it is not the first time that neuroleptics may be more of a hindrance than a help. The World Health Organisation Study of the 1960's found a significant difference in the recovery rates between western (very dependent on drugs) and non-western cultures (less revolved around drugs). The results were surprising, the non-western cultures fared better in terms of recovery and the western areas had higher rates of negative symptoms [26]. This led people involved with mental illness, like Robert Whitaker, a medical author, to question the effects of psychiatric drugs, inspiring his anti-psychiatry book, 'Mad in America' [27].

The most important factor to consider is that neuroleptic drugs have profound effects on patient's motivation to recover, with 90% feeling depressed, 88% feeling sedated and 78% experiencing decreased concentration, and 30% not responding at all to the drugs [27,28]. With patients already distressed when experiencing the bizarre symptoms of schizophrenia, they also have to deal with the side effects produced by neuroleptics and this can make recovery seem distant. One report found that mental health nurses were taught too little about ethics and patient dignity in their curriculum [29], the idea that they are there to administer drugs without considering all aspects of how the patient is feeling is a worrying one.

It is important to remember that psychiatric drugs are the primary therapy in our system, and most patients use them to function adequately. Regardless of whether they are the best possible option for schizophrenia patients, psychiatrists can definitely depend on

them to reduce psychosis effects, even if it is to calm or sedate them, as mentioned earlier. This is important to consider, when discussing alternative psychiatric systems.

Discussion and Conclusions

Some episodes of psychosis come about after a traumatic life event or other changes in everyday life. This hints at the idea of a psychological aspect in schizophrenia onset, as shown in Mackler's film, 'Take these broken wings' [30]. The disturbing thought process which lead to symptoms can be resolved through psychotherapies such as psychoanalysis, family, cognitive behavioural and milieu therapies, whereby the therapist tailors needs techniques and symptoms of that particular patient [5]. Talking through symptoms in a logical way can help the patient in understanding their illness. Eleanor Longden argues that during her psychotherapy, the focus wasn't on the fact that she heard voices, but how the words of the voices were significant to her [31]. From what we know so far, there are biological abnormalities which can cause distinctive positive symptoms like hallucinations, but there can't be a specific biological mechanism that causes voice hearing. A lack of a neurotransmitter or structural abnormality is yet to be found which can make a person hear many voices as well as their own [32]. Voice hearing comes as a defence mechanism as the person begins to shift into a psychotic episode [33]. This symptom in particular, proves the individual cognitive differences with each schizophrenia diagnosis [34]. Changes in the patient's cognitions and is a convincing idea since all patients experience vastly different symptoms. An underlying anxiety of leaving the house can manifest as voices being heard which tell the person that they will be spied on if they leave. Hearing voices is undoubtedly distressing, yet seeing how their own mind has interpreted a situation can be an invaluable coping mechanism. This cannot be achieved with medication alone, since the aim of neuroleptics is to treat the biological processes that the patient has no control over. They cannot have an impact on the biological processes manifesting into the day to day cognitions of the patient. Thomas Szasz, part of the anti-psychiatry movement, argues that schizophrenia cannot be treated medically when it is based purely on behavioural symptoms [35]; however, I have concluded that it is better to think of schizophrenia as a biopsychosocial disease, with origins stemming from all three fields. This leads me to think about the benefits of psychotherapy for patients, without discarding the use of medication all together.

The use of psychotherapy alone has faced two main criticisms. Firstly, it is thought that patients with psychosis may have too little insight into their mental state to be able to converse effectively with the therapist and understand interpretation of the symptoms. Psychotherapy is pointless if the patient cannot engage with it [36]. Secondly, it has faced criticism for causing more harm than good. With invasive psychotherapies such as psychoanalysis, talking about past traumatic events can have the opposite effect to what the therapist was hoping for, distressing the patient further [37].

However, minimum medication programmes outside of the UK and US, such as Open Dialogue in Western Lapland are taking a new approach. They aim to treat the patient holistically, with a multidisciplinary team of nurses, psychiatrists, psychotherapist's counsellors and family members, who view the symptoms from all angles, and discuss treatment with the patient. Here, schizophrenia can be treated in the home, and normal day to day tasks are encouraged to continue, a stark contrast from in the west where hospital treatment is prominent. As a result of this new approach, where only approximately $1/6^{th}$ of patients are taking neuroleptics, Western Lapland has seen a 90% decline in schizophrenia rates, because the cases they treat don't become chronic [38]. The success rate is overwhelming, with 85% fully recovered after 5 years. The difference being, that medication is only part of the treatment plan, as opposed to the complete priority they hold in our society. Patients on the open dialogue programme develop important skills like communication and they learn to cope with their symptoms [5]. Here, recovery comes from the patient themselves and their own understanding and interpretation of their symptoms. This high recovery rate challenges the idea that schizophrenic patients automatically have limited insight into their condition.

In contrast to this personal approach, with our current system, any change that comes about is very much external. From the psychiatrist to the neuroleptic drugs, the patient has little role to play in their own recovery. Many forms of psychotherapy can be offered, whichever is most suitable for the patient, since they have different aims. The results of psychotherapies include more stable family environments, completing everyday tasks, understanding the origins of schizophrenia and interpreting their symptoms. There have been developments into community based mental health teams which are user run, proving to be effective in the maintenance of recovery since those helping the patient have experienced it before [39]. In psychiatry today, patients are referred to psychotherapy in conjunction with medication, yet these tend to be the 'milder' illnesses such as depression and anxiety [40]. With schizophrenia and other more 'severe' mental illnesses, the patients are thought to be too far gone in terms of rationalisation, thus psychotherapy is rarely considered.

This can be challenged by the effectiveness of psychotherapy orientated and minimum medication programmes. A similar programme to Open Dialogue, Soteria Berne has stressed that their primary concern is patient choice [41] and this is what I conclude to be the main factor in terms of the success of these treatment programmes compared to our current system [42].

Regardless of the studies against the use of medications in psychiatry, it is difficult for this current paradigm to shift, due to the largely influential organisations of NICE, WHO and the government. These support psychiatric treatment of a medical basis, thus, pharmaceutical companies [17]. It is proving difficult to stray from such an accepted idea. Neuroleptics also provide a standardised system, clear step by step guidelines for psychiatrists in the diagnosis and treatment of schizophrenia [2-4]. Different patient's responses may differ, but they can all be given the same dose of the same drug. As mentioned by Miller, psychotherapy success can dependent on uncontrollable factors, like the compatibility of the therapist and patient. Therefore, not all patients will have an equal chance of recovery [43].

I am proposing that our psychiatric system reconsiders the importance of neuroleptics and the automatic dismissal of psychotherapies for schizophrenic patients. Additional psychotherapies need to be integrated, requiring teamwork between members of the mental health profession, providing a holistic approach. This integration should be equal to the existing importance of drugs. Unsurprisingly, most evidence concludes that the best outcome rates are when many different treatments are combined [32,44]. Thus, my suggestion is maintenance of our current system with additional improvements to the quality and particularly the quantity of psychotherapy offered to patients [34]. It would not be logical to discard neuroleptics completely, when there is long standing evidence that they can be effective, as mentioned previously [32-45]. Even Ben Goldacre, who is largely critical of the drug industries, commented 'even though there are problems with psychiatric medication, on the whole, it does more good

than harm [46].

The aim is simply to reduce the amount of patients *relying* on neuroleptics, especially long term. Ideally, this would involve usage when a patient is very unstable when first admitted [38] but replacing with psychotherapies and decreased dosages over time. To conclude, we are currently in a position whereby psychiatry is not reaching its full potential. What is necessary is a reform in the way we prioritise treatments. In the words of behavioural pharmacologist Mark Tricklebank; 'We'd been turning the engine when what we really needed was a new engine' [15].

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