

## Medications versus Cognitive-Behavioral Therapy for Depression

Thank you to for having me speak here today, and I welcome all of you to this talk. I very much enjoy my work as a clinical psychologist, and it is gratifying to see so many of my clients improve with treatment. Hundreds of studies show that approximately 80% of the people who enter treatment with a psychologist show improvement.

Since I will be presenting a discussion on treatment of depression from the viewpoint of a clinical psychologist, the things I will say here today will sound discordant, possibly even outrageous. That is because so much of the information presented to you on the treatment of depression is given by the pharmaceutical industry, and their marketing machine. The Globe and Mail reported just 9 days ago on January 2, 2001, that "an estimated \$1-billion -- or \$20,000 per physician -- will be spent by the pharmaceutical companies this year on marketing for hundreds of drugs."<sup>1</sup> For example, "Janssen-Ortho and Schering Plough paid for doctors' Friday-to-Sunday stay, including meals, at the Manoir Saint Saveur, a four-star ski resort in Quebec's Laurentian mountains this February, in exchange for their attendance at about six hours of workshops and presentations on women's health". The lavish meals, gifts, pamphlets, etc. that the pharmaceutical industry tosses around has been very effective. The very next day after this article, the Canadian Press reported that "the number of antidepressants prescribed in Saskatchewan is expected to hit a record of more than 419,000 for the year 2000. That's up from 385,000 in 1999."<sup>2</sup> This works out to 1 prescription of antidepressants for every 2 adults in Saskatchewan. Now, I understand that Saskatchewan can be a little depressing, I've driven across it a number of times in the winter. But is 1 prescription of antidepressants for every 2 adults about the accurate and appropriate diagnosis and treatment of depression? Or is it about the effects of a billion dollar advertising campaign? These effects are not limited to Saskatchewan, IMS Health, which tracks prescriptions, reports that nearly 14 million prescriptions for antidepressants were written last year.<sup>3</sup> Again, more than 1 prescription for every 2 adults. This is not cheap either. One HMO found that antidepressants were the most costly drug class for the plan and were in the top three in frequency of prescription.<sup>4</sup>

Now, I do not have a billion dollars to throw at you, nor do I have all-expense paid ski weekends to dole out. I can't even afford ski weekends at 4 star resorts. However, I have something else to give you, which I hope will be more valuable to you and your patients. That is the other side of the story. The facts about the effectiveness of cognitive-behavioral therapy that the highly financed drug representatives may or may not have mentioned. I will be presenting facts and findings drawn largely from the top psychiatry journals in the past decade as to the relative effectiveness of medications for depression, compared to cognitive-behavioral therapy for depression. Copies of these journal articles or the references to them, and the text of this talk, will be available at the back, and some will be available at my website, drkuelker.com You will then be able to examine the scientific evidence for yourself. You do not particularly need to believe me, or a sales representative who is very interested in his company's profitability. I encourage you to believe the scientific evidence, presented in the journals.

Since we do not have time to sit in a circle and read all the relevant scientific articles, I will present a summary of the material in our time together. We will examine the willingness of patients to enter and stay in both types of treatment for depression, some of the reasons for dropout, the effectiveness of the treatment upon the patients who stay in treatment, the effectiveness of the treatments at different levels of depression, and the subsequent rates of relapse into depression for both groups. We will summarize these numbers by attempting to establish a range of upper and lower values to see which is more effective.

Cognitive-behavioral therapy was developed largely by a psychiatrist, Dr. Aaron Beck, when he noticed that clinically depressed people had very negative views of themselves, the world around them, and the future. It teaches people to identify these negative and erroneous thoughts, and replace them with realistic thoughts. This alteration in thinking is hypothesized to alter the person's mood. CBT is widely applied and has been frequently researched, with literally hundreds of research articles being conducted on it.

### Entry and Retention in Treatment

Psychiatrists at Yale did a meta-analysis of 7 well-controlled studies comparing psychotherapy and pharmacotherapy.<sup>5</sup> They found that dropout rates from psychotherapy ranged from 5% to 13%, compared to dropout rates of 36% to 50% for patients receiving pharmacotherapy. These results are typical. Another study comparing cognitive therapy to fluoxetine found that 9% of the cognitive therapy recipients dropped out, compared to 33% of the fluoxetine recipients.<sup>6</sup> A meta-analysis of dropout rates found that 31% of pharmacotherapy recipients dropped out of studies prematurely, with no difference between tricyclic recipients and SSRI recipients.<sup>7</sup> Dropout rates in general practice range from 30% to 70%, one study found a dropout rate of 40% after 6 weeks, and 64% after 12 weeks with treatment as usual in general practice.<sup>8</sup>

### Reasons for refusal to enter, or drop-out of treatment.

The reasons for the drop-out rates vary between concerns over side-effects of the interventions, and because of concerns that the treatment is not efficacious. There does not appear to be significant differences between the SSRI's and the newer TCA's in terms of their dropout rates.<sup>9</sup> The dropout rates are affected by the substantial side-effects of medications. For example, among the SSRI's, between 5 and 30% of people report nervousness, tremor, anxiety, sleep disruption, anorexia, and loss of weight.<sup>10</sup> About 50% or more of people experience sexual problems, and gastrointestinal problems such as nausea or diarrhea (with paroxetine or fluoxetine). If used in combination with other medications such as MAO inhibitors or other serotonin enhancing drugs, they can be lethal. They also cause significant problems when used in conjunction with heart medications. The TCA's also have a lengthy profile of side-effects, which many consider to be more intrusive than the side-effects from the SSRI's. In the interests of time, we will not discuss these, as you are probably aware of them.

Aside from the varied and intrusive side-effects, one reason I frequently hear from clients as to why they refuse medications is that they generally dislike taking any medication. This antipathy towards medication is not diminishing, as evidenced by the

growing interest in alternative and herbal interventions.

In contrast, there are no recorded side-effects as a result of cognitive-behavioral psychotherapy. None. This may be an important reason for the marked contrast in drop-out rates between pharmacotherapy and psychotherapy.

Thus, the drop-out rates for pharmacotherapy are frequently 3 if not 6 times higher than for psychotherapy, and there is no significant differences in drop-out rates between the different classes of anti-depressant medications. The side-effects for medications, even the SSRI's, are substantial and intrusive, whereas cognitive-behavioral therapy has no known side effects.

#### Effectiveness of treatment upon individuals.

Having looked at reasons that people do not enter in, or stay in treatment, let us look at the effectiveness of treatment upon the remaining people who do stay in treatment. The meta-analyses conducted by psychiatrists at Yale found that psychotherapy had a success rate of 62%, whereas pharmacotherapy had a success rate of 52%.<sup>5</sup> This is very consistent with several other meta-analyses in the psychology journals that found that cognitive therapy was either superior to<sup>11 12</sup> or equivalent to pharmacotherapy.<sup>13</sup> None of the meta-analyses by either psychiatrists or psychologists found that combining psychotherapy and medications was more effective than psychotherapy alone.

Interestingly, when a meta-analysis was conducted that included studies under "blinder" conditions, where a new antidepressant (e.g. trazadone) was compared to both a standard antidepressant (e.g. imipramine) and a placebo.<sup>14</sup> Thus, the researchers and patients would be much less likely to know who was receiving an old (presumably less effective) medication, and who was receiving a newer one, because side effects would be present in at least 2 of the 3 groups. Since side effects were frequently present, this would reduce the influence of expectations. The study found that there was only a small effect from both types of antidepressants, equal to 0.2 of a standard deviation. When ratings of outcome from patients were used, there was virtually no benefit beyond that obtained from placebo. The clinicians' ratings showed slightly more of an effect of medication, but that may be from different expectations and hopes on the clinicians' part as to the effectiveness of medication. These results are consistent with studies that use a placebo (such as atropine) that produces some of the same side-effects as antidepressant medication, but does not have known anti-depressant effects. Compared to these active placebos, antidepressant medication has virtually no effect in ameliorating depression.<sup>15</sup>

Although the conclusion is that cognitive therapy is as effective, or more effective than pharmacotherapy in general, it is important to find if this holds in the case of severe depression. This is important because some practice guidelines state that "for severe depression or psychotic depression there is strong evidence for the efficacy of medication and little or none for the efficacy of psychotherapy alone." This conclusion was based on a single study.<sup>16</sup> An article in the American Journal of Psychiatry in 1999 examined this assertion through a mega-analysis of four major randomized trials, including the study that the practice guidelines were based on. Their conclusion exactly mirrored the conclusions from the meta-analyses mentioned above that the "overall effect sizes comparing antidepressant medication to cognitive behavior therapy favored

cognitive behavior therapy" although the superiority of CBT was not statistically significant.

#### Relapse rates for each treatment.

Although cognitive therapy is equal to, or superior to, medications regardless of level of depression, we next need to move on to relapse rates after treatment is ended. This is so important because approximately 80% of the people who have a major depressive episode will experience at least one more in their lifetime.<sup>17</sup> At least 5 studies in the psychiatry journals have shown that people treated with CBT have about half the rate of relapse into depression, compared to individuals treated with medications alone.<sup>18 19 20</sup> Another three studies in the psychiatry journals treated residual symptoms of depression with either pharmaco-therapy or cognitive behavioral therapy.<sup>21 22 23</sup> These studies found that the residual symptoms decreased significantly more with cognitive therapy, compared to clinical management. Furthermore, the rate of relapse into depression at two or four year follow-up for cognitive therapy was 25% to 35%, whereas pharmacotherapy had relapse rates of 70% to 80%.<sup>21, 23</sup> Once again, cognitive therapy had a relapse rate that was less than half of the relapse rate for medications.

#### Summary

In this discussion, we have looked at the willingness of people to enter and stay in treatment, the effectiveness of treatment upon people who stay in treatment, and the relapse rates after treatment. We can summarize this by constructing two scenarios, in order to try and estimate the lower and upper limit of the differences between medications and cognitive therapy. We shall refer a hypothetical 100 patients to each treatment condition. All the numbers used are drawn from the psychiatry or medical journals only. Scenario one will be favorable to medications, to give it the advantage, scenario two will be favorable to cognitive therapy.

Scenario one, favorable to meds

Assume low dropout rates for meds, equal effectiveness between the two treatments, low relapse rates for meds and high relapse rates for CBT.

	CBT		Medications	
	Patients	Rates	Patients	Rates
Referral Made	100		100	
Drop-outs	85	15% drop out	70	30% drop out
Treatment Success	43	50% success	35	50% success
Symptom Free after 2 years	28	35% relapse	11	70% relapse

**Conclusion** CBT is 254% more effective than meds at two year follow up.

Scenario two, favorable to CBT

Assume higher dropout rates for meds, CBT is more effective, and high relapse rates for meds and low relapse rates for CBT.

	CBT		Medications	
	Patients	Rates	Patients	Rates
Referral Made	100		100	
Drop-outs	90	10% drop out	40	60% drop out
Treatment Success	54	60% success	20	50% success
Symptom Free after 2 years	41	25% relapse	4	80% relapse

**Conclusion:** CBT is 1025% more effective than meds at two year follow up.

In summary, the range is that CBT is 254% to 1025% more effective than medications in treating depression over a two year timespan. Other scenarios can be constructed, but yield the same conclusion. For example, applying relapse rate data to the article by Wexler and Cicchetti yielded an advantage of 344% for CBT. Of course, I encourage you to check the journal articles out yourselves as well.

This discussion has focused on comparing CBT to medications for depression. I

wish to emphasize that I am not opposed to medications. In fact, my standard practice is to refer any of my clients who have symptoms of psychosis or bipolar disorder to a psychiatrist for appropriate medication. I also immediately refer suicidal clients for medication, as I consider that the full range of treatment is necessary in these cases. I am not opposed to medications, but I am opposed to two trends. First, the hyper-marketing of medications by the pharmaceutical companies to physicians and the public. Second, the selectivity of information that the companies present to physicians and the public, to reinforce the idea that medications is the only effective form of treatment for depression. For example, this pamphlet by Wyeth-Ayerst on depression does not even mention that psychotherapy for depression exists, let alone compare the effectiveness of medications to psychotherapy.

A final point before we move to a question and answer period is how to access treatment. You are all well aware of accessing medications. For accessing psychotherapy, many corporations and governments have recognized the value of good mental health for their employees. They discovered that making treatment by a psychologist available significantly reduced absenteeism, and increased productivity. Therefore, they purchased benefits plans for their employees and their family members to see a psychologist. For example, all government employees are covered to see a psychologist. Details are available on my website in the section "Therapy Cost", or in my brochure.

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