Thinking about Neuropsychological Rehabilitation: An Interview with Barbara Wilson

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Abstract
Barbara Wilson is a psychologist and researcher in neuropsychological rehabilitation from U.K. She is the founder of the Oliver Zangwill Centre, a place that has strongly contributed to the development of theoretical and technical approaches to rehabilitate cognitive and socio-emotional problems after brain injury 1. In this interview Barbara Wilson offers her personal perspective on the state of the art in neuropsychological rehabilitation, commenting on key topics such as the principles that guide holistic rehabilitation, the relevance of incorporating emotional problems after brain injury and the need to adopt research methodologies that are congruent with our object of study.

Keywords: Barbara Wilson, Brain injury, Neuropsychological Rehabilitation, Holistic Rehabilitation, Single case studies.

* For more information about Professor Wilson see http://www.mrc-cbu.cam.ac.uk/people/barbara.wilson/

This interview was held in 2008, during the 5th World Congress for Neuro-Rehabilitation in Brasilia, Brasil. Barbara Wilson is a psychologist and researcher in neuropsychological rehabilitation from United Kingdom. She is the founder of the Oliver Zangwill Centre, a place that has strongly contributed to the development of theoretical and technical approaches to rehabilitate cognitive and socio-emotional problems after brain injury.

CS: Barbara, your career has been amazingly productive. You have developed assessment instruments, researched on compensation techniques and pushed forward a coherent conceptualization of neuropsychological rehabilitation. From all this work, which is your dearest contribution?

BW: The thing I am most proud of is setting up the Oliver Zangwill Centre (OZC). I think it is a good centre, a place where, if my relatives needed it, I would be happy for them to go. That is my proudest professional contribution.

CS: It is like a son of yours...

BW: I feel it more like a daughter (laughs)

CS: OK...more than ten years ago you wrote an article entitled “Cognitive Rehabilitation: How it is and how it might be”. Ten years later, is cognitive rehabilitation closer to how you thought it should be?

BW: I think so. I think it is more widely available for people. It is more likely for people to get help with their emotional problems as well as their cognitive problems. I think we are more willing to incorporate different models and cultures and synthesize theoretical styles. So, I think it is better. However, the problem now is that rehabilitation is not available to all the people who need it. I think that's a more political issue. Governments will have to recognize the need for rehabilitation and provide the services. The services that do exist do very good work, but still too few people can access these services.

CS: Couple of years ago, when you visited Chile, you described your centre and mentioned that on average it treated about 10 people during a six month period cycle. This is interesting in view of what you describe as a difficulty of people accessing such services... I mean you have a huge demand from services but also the limitation of restricting the number of patients in order to provide a more holistic approach. How can this be addressed?

BW: Yes, well...they come in groups, so there will be a group of 6 or 7 people, and then they overlap with the community work, so there might be 12 people at the same time, which is tiny...

CS: Yes, it is...

BW: Clients come four or five days a week for several weeks (the intensive phase) and then begin the reintegration phase during which they come for two to three days a week for several weeks. During this time they are beginning to re-enter the world of work, further education and greater independence. The centre aims to provide high quality rehabilitation for the individual cognitive, social and emotional needs of people with non-progressive brain injury and also to meet the needs of the families. The ultimate aim is to promote the maximum level of independent functioning at home, in the community and in productive work.
But I also work in other situations where there are more patients in different circumstances. I mean, the OZC is only one style, tailored for people who have a chance to get back to work. If they are much more severe, or there are more difficulties you have other approaches. When I said this morning, "horses for courses"\(^2\), well that meant that we have to design the treatment according to the needs of the person. And we need a whole range of levels.

**CS:** Let me ask you something else…when I read your old papers, from many years ago, I noticed that you were emphasizing interventions aiming at a cognitive domain. However, when I read your recent work it surprises me that you are talking about the relevance of emotional issues.

**BW:** Well, I have changed. I still see the cognitive domain as important, but people have emotional issues as well. And I didn’t feel equipped to work with those before, but now I’m in a team at OZC, and there are people who are really good therapists. So that is why now I talk more about that. It was not that I did not believe that addressing these issues was not necessary, I just wasn’t competent.

**CS:** This new emphasis on emotional issues makes me think of something you used to say, that neuropsychology has benefited from brain injured patients for many years – for example in learning about the neural mechanisms of cognition – but patients have not really benefited from neuropsychology. A turn towards emotional issues seems to put the focus on patients at last…

**BW:** Patients now benefit from a holistic rehabilitation when they get it. I know many neuropsychologists who only do diagnostic assessment. I do really feel that we need to be part of a team, for example, working together with the occupational therapist, and using each other’s skills.

**CS:** In your opinion, what are the main principles that articulate this holistic approach?

**BW:** There are several principles we follow at the Oliver Zangweil Centre, all of which have been derived from theory, models and research. For example, a main one is to provide a therapeutic milieu. This is derived from Ben-Yishay’s concept of the therapeutic milieu\(^3\). The ‘therapeutic milieu’ in holistic rehabilitation refers to the organisation of the complete environment (physical, organizational, and social aspects) so as to be of maximum support to the process of adjustment and increased social participation. The milieu embodies a strong sense of mutual cooperation and trust which underpins the working alliance between client and clinicians. The goals of rehabilitation should be meaningful and functionally relevant. For example, goals can be categorized into vocational, educational, recreational, social, and independent living realms. This is relevant because it is through participation in these areas that we gain a sense of purpose and meaning to our lives. You also have to ensure a shared understanding among team members. This concept includes team philosophy, a shared team vision and also explicit values and goals. Understanding of research and theory is relevant too, as it is sharing the knowledge and experience with other professionals and families. As a way of monitoring our work we often implement a peer audit of the service. And the views and contributions of past clients are also incorporated as part of our shared understanding.

There are also other principles that we follow, which are more closely related to our practice. For example, we apply psychological interventions, which are based on certain ways of understanding feelings and behavior. We use some specific psychological models, such as cognitive behaviour therapy, to guide our work depending upon the specific needs of the individual. Approaches from these models provide tools that team members can use to engage patients/clients in positive change and the tackling of specific problems.

Another important aspect of our work relates to the management of cognitive impairment. We often address cognitive impairments through compensatory strategies and retraining skills. As you probably know, compensatory approaches to managing impairments may take a number of forms. For example, in cognitive compensation you can use visual imagery to compensate for a defective verbal memory, or you can use a mental routine for managing impulsivity or anger, or clarification to ensure effective communication. Enhanced learning is another form of compensation, and basically refers to the use of learning techniques that can improve patient’s capacity to learn new knowledge or skills, as in errorless learning or spaced retrieval learning. You might have also heard of external aids, which is another form of compensation too. Examples of external aids are using a diary for managing memory problems, checklists to remember exercise routines, alarms to increase attention to tasks, cues for keeping on track during conversation, etc. Finally you can also use environmental adaptations, where you modify the relevant environment in order to reduce cognitive demands. For example you might want to suggest a patient to work in a quiet, non-distracting room to aid concentration, or to hold important conversations when less fatigued.

Two other core elements of our work are retraining and family involvement. Retraining is often undertaken to improve performance of a specific function of the brain, or to improve performance on a particular task or activity. Retraining also helps to address skills that have been lost through lack of use, for example because the patient has not been at work since an injury. Now as for the role of family and carers, we try to work closely with them. There are a number of different kinds of support you can be provided, such as providing information, providing opportunities for peer support, involving family and carers in rehabilitation, and providing individual family consultation or therapy.

**CS:** Is this form of team working a general practice in the United Kingdom?

**BW:** It certainly happens at the OZC, and also in other centres. I think we are the best. Since I started doing brain injury rehabilitation I have always worked very close with OTs, speech therapists and physical therapists, particularly OTs. Because they are practical problem solvers, they deal with the functional aspects of living. However, I think they are less skilled in evaluating, or in the research side, or showing evidence. And there is where psychologist can really contribute.

**CS:** Is the idea of cross-fertilization a principle in your work?

**BW:** Yes, if you are working in a team where you can do it. But, quite often, your style of work is determined by your place of work. And, if you don’t work in a team like the OZC you need to adjust your practice. For example, when I worked in Southampton I just saw ambulatory patients, because that was all I could do. It was not ideal. And when I worked at Rivermead it was very different again, there was a team, but patients were much early in their evolution, three months post-stroke or post head injury. And now in the OZC patients may be two years post injury or illness or more. So you work within the confines of your context.

**CS:** I see… the structure of the place where you work shapes the identity of the team…that is something obvious, but we usually forget about it when we try to import models of rehabilitation into our own practice. I would like to ask you something rather technical now. You have developed many cognitive assessment batteries along the years. Do you think there is a cognitive or emotional domain that has not been properly addressed yet?

**BW:** The way that I see it is that no tool, or assessment, is ideal. For example, if I were to design the Rivermead Behavioural Memory Test again, I would do it differently. With any test

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1. Idiomatic expression suggesting that what is suitable for one person or situation might be unsuitable for another.
there are some people that score well, even though one knows they still have problems in that cognitive area (e.g. memory) but the test does not capture these problems. So I think that you will always have to do a more formal assessment combined with functional and behavioural measures. They complement each other, and I think that we need that combination.

CS: Of quantitative and qualitative sources of data…

BW: something more observational… not just qualitative. For example, someone might be doing fine in a memory test and yet can’t do things in daily life. So why is that? Then we need to observe, to adopt a more observational style so we can understand the factors that are determining such performance.

CS: In Chile neuropsychological rehabilitation is usually reduced to cognitive retraining. What is your opinion on confining interventions to the cognitive domain?

BW: To me cognitive retraining means restoration of functions. I don’t think that is possible for all cognitive abilities. Certainly it is not possible for memory, but perhaps it might be for some attention and language problems. So I prefer cognitive remediation rather than retraining. I prefer a term that encompasses compensation and modifying the environment. And I still think that is very important for brain injured people.

CS: Is it more relevant in the early stages of rehabilitation?

BW: Well, at any stage. As I was saying this morning, it depends on the goals you are setting. If you are working with someone in the very early stage, your goals would be very simple, such as finding the toilet or the bedroom. But if you are working with someone at the OZC, your goals will be related to helping that person getting back to work, or to use a sophisticated memory system. So the goals have to be right for each level or stage.

CS: why do you think it has been so hard for therapists to understand this, knowing that our main business is disability, not just impairment?

BW: It is easier to treat impairment. But I don’t know really why. And this is where I like OTs, because they are very functional, and they will aim to get the patient back home, and back to work. I think that psychologists should learn that from OTs. And the OTs should take from us the more systematic form of evaluating and designing, so they can say if something is effective or not. I think that psychologists have more models to choose from, more theoretical tools…but together we can really go far.

CS: Just a couple of questions more… you wrote a book about “Case studies in Neuropsychological Rehabilitation”... It is a wonderful book, by the way. I like it because it is rather unique in the field...there are no books on clinical cases on neuropsychological rehabilitation in traumatic brain injury. For more details see

http://www.psycbite.com

CS: I see. But what I meant is that your “Case Studies” is pioneering in a way...

BW: Maybe…in neuropsychological rehabilitation…

CS: Yes… I bring that out because I wonder if you wrote that book thinking about the relevance of single case designs, a topic that you have stressed a lot lately.

BW: Yes, and also earlier, in the 80s. I wrote a paper then. In fact my PhD was based on that. Even before I went into neuropsychology I worked on learning disabilities, and I used single cases there. So ever since I qualified it has been part of my style of research.

CS: Why do you think single cases are so relevant for our job?

BW: I think that if you are asking questions about individuals you need relevant designs for individuals. So if you are asking questions about groups you need group designs. If you want to say how many people benefit from a certain procedure, and that is a group design. But in rehabilitation, with every single patient we see, we should ask ourselves: is this patient changing? And is this change due to what we are doing or would it happens anyway? I mean, by natural recovery or whatever. So you are asking a question about an individual patient and you can’t answer that question with group studies. You have to use the single case experimental designs to do it. And that is why it is relevant. Again, it depends on the question you are asking. But in clinical practice you need the single case design to tell you about a particular patient that you are seeing.

CS: Has the medical community accepted this methodology?

BW: Oh! Well…in psychology it has always been accepted. It came from behaviourism in the 1960s-1970s. For the medical professional, a few of them may see the sense, but many of them see it as something not useful because they think you can’t generalize. Well, you can generalize to other patients. Think for example of Robyn Tate’s work and her PSYCBITE™. She thinks the same as me. And that is why she has developed this system of evaluating the quality of single case studies. In the past doctors have said to me ‘You wouldn’t get it published’. Well, now there are whole journals devoted to single case experimental designs. And medical professionals don’t know about these designs. They think you can’t publish unless you are reporting a randomized controlled trial. Now however, things are changing and single case experimental designs are beginning to be more accepted.

CS: I do feel that single case studies are very useful as methodological tools for small neuro-rehabilitation teams, where there are not many resources…

BW: you don’t need too many resources and you can make it part of your clinical work. And my whole PhD was based on this…basically for a practical reason… I couldn’t work full time and do a PhD unless I was using my own work as material. The single case designs allowed me to do that. But it is good for people with few resources that are starting out. And they just need to make sure that they have the data and they get the stable baseline. For example, therapists usually

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55 Professor Robyn Tate is a clinical psychologist and neuropsychologist working in Sidney Australia, who has researched extensively on neuropsychological rehabilitation in traumatic brain injury. For more details see


*** PSYCBYTE stands for Psychological Database for Brain impairment Treatment Efficacy. Is a database that catalogues studies on brain injury treatment according to its methodological quality. For more details see

http://www.psycbite.com
write notes about their patients and think about them before the sessions. If you do that, you are quite able to run a single case study.

CS: It is quite practical. Perhaps this leads us to my last question, which is related to how to improve our ability to generate knowledge in the field. Well, you have been several times to South America and also in Chile.

BW: Yes, I have been there several times, but only a couple of times for academic purposes.

CS: I wonder about your impression on the state of the art in Neuro-rehabilitation in South America. Do you have some thoughts in relation to Chile?

BW: Well I don’t know Chile that much in that sense. I know Brasil and Argentina better. There are some very good things going on in Brasil. Sao Paulo I know best, and I go to Sao Paulo usually once a year. And some of the people there are doing good rehabilitation. The SARAH††† and its facilities are very impressive. I’m sure there are whole other areas where it is not working well, there are always gaps. I don’t know the Chilean situation. I know a little bit about Los Coihues‡‡‡ clinic and I know Dr Jacqueline Dote§§§ but I don’t have a good feeling about the rehabilitation that you offer there. The other place that I know is Buenos Aires, where Facundo Manes**** set up his own clinic after leaving FLENI. And they have some good people there. So it seems to me that in Brasilia, Sao Paulo and Buenos Aires there is some good rehabilitation going on. Those are the ones that I know about it. But I’m sorry to say that I don’t have a clear understanding of Chile.

CS: Well, maybe that is because we are just beginning to shape our rehabilitation services, still figuring out the best way to approach this problem.

BW: Well, you will get there.

CS: I hope. Well, thanks very much for your time Barbara.

Acknowledgements

This article was financially supported by the research department of Clinica Los Coihues and a PhD studentship awarded to the author by the Government of Chile.

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