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Administering LAAs: an education and training workshop

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## **Administering Long Acting Antipsychotic Intramuscular Injections: an evaluation of an education and training workshop for pre and post registered mental health nurses (2).**

### **Abstract**

This is the second article which focuses on the inter-collaborative work between education and practice to enhance theoretical and practical delivery for mental health (MH) nurses when administering Long Acting Intramuscular Injections (LAAIs). By designing two questionnaires, we were able to evaluate knowledge gain and the satisfaction level of the course delivery by the MH nurses, which appear initially to identify that such educational strategies can make a positive impact in clinical practice.

### **Introduction**

In the previous article (Hemingway et al 2013), we discussed the background as to why a workshop would be of value from a quality care perspective in relation to updating Mental Health (MH) nurses on the knowledge and skills to administer Long Acting Antipsychotic Injections (LAAIs). This article identifies how a collaborative approach between the organisations enabled the workshop to be delivered and how some of the outcomes of the days were subsequently evaluated.

The aim of the session was to provide an update in the latest evidence toward increasing participants' knowledge and skills in administering LAAIs.

Evaluation of the LAAI workshop involved consideration of whether there was a significant increase in knowledge in relation to administration and understanding of the use of intra-muscular (IM) LAAI after the workshop. The involvement of the workshop attenders was also sought by requesting feedback on how the participants rated the workshop in increasing their knowledge and skills in administering LAAIs; and what development would enhance the workshop both in relation to theory and practice.

### **The Educational Package and materials**

The workshop attenders, who were all registered MH nurses, participated in a discussion around adherence versus concordance approaches (Hemingway & Snowden, 2012). This was then strategically followed by a review of the latest evidence for injection site and length of needle (Feetham & White, 2011); which introduced the new concept of the deltoid injection that has recently become an option for administering LAAIs. The theory content was delivered audio-visually, and included a PowerPoint presentation of knowledge and a DVD presentation of techniques.

The second part of the workshop, which was based around practice delivery, took place in the simulation suite to try to create some authenticity to the process, whereby the attenders utilized knowledge from the morning session, and assessed their own technique and understanding in relation to simulated deltoid injection administration through facilitation and peer group assessment.

The last part of the day was a reflective session where all participants evaluated the workshop.

## **Sample Recruitment**

A mixture of qualified staff from South West Yorkshire Partnership Foundation Trust (SWYPFT) and student nurses from the University of Huddersfield were invited to the workshop.

## **Ethical Considerations**

Permission to undertake the study was obtained from the School of Health and Human Sciences Research Ethics Panel. Confidentiality was maintained throughout the project as a requirement of professional regulation (NMC 2008).

## **Data Collection**

A 7-item multiple-choice questionnaire designed around the session content was used to assess participants' knowledge of administration of LAAs. The questionnaire was administered at baseline to ascertain students' knowledge prior to attending the session, and was completed again following the session to measure improvements in knowledge. Each questionnaire item was equally weighted.

Questionnaire content included: adherence issues; clinical indications of LAAs; sites of administration; the deltoid injection as a new choice for the service user; length of needle; Z-track technique; recently introduced LAAs; and typical side effects reported.

Additionally, participants were asked to complete a post-evaluation questionnaire of the workshop content, materials and delivery, with Likert-style items and spaces for open-ended comments.

## **Data Analysis**

### **Quantitative analysis**

The analysis was conducted on questionnaires submitted before and after the training programme. A small number of respondents provided "pre-training" scores only: these were not included in the analysis. All questionnaires were identified using an ID number: hence it was possible to pair pre-training and post-training questionnaires. The effect of the questionnaire was assessed using a paired samples t-test

### **Qualitative analysis**

Content analysis of the open-ended questions was undertaken using a process outlined by Newell and Burnard (2006). Deductive content analysis (Elo & Kygnas 200) was used because the written responses were more focused and concise than could be obtained from conventional semi-structured, audio-recorded interviews. Responses with the data sets were examined for content that related to the respondents' written answers to the five open response questions. At first, two authors (SH, CC) read and re-read the written responses in order to be familiar with the content. Subsequently, they agreed on how these related to the statistical analysis and for content emerging in terms of the outcomes from the workshop...

## **Results**

A total of 39 usable questionnaires were received for analysis, representing the majority (86.7%) of the 45 participants in the workshop. Valid demographic information was collected from the majority of the cohort, and is summarised in Table 1 below.

**Table 1: summary of demographic information**

Variable	Frequency (valid %)
<b>Age (years)</b>	
18-25	10 (25.0)
26-35	10 (25.0)
36-45	13 (32.5)
46-55	6 (15.0)
55+	1 (2.5)
<b>Gender</b>	
Male	9 (23.1%)
Female	30 (76.9%)
<b>Years worked</b>	
0-5	17 (41.5)
6-10	8 (19.5)
11-15	3 (7.3)
16-19	3 (7.3)
20+	10 (24.4)
<b>Branch</b>	
Learning disability	14 (35.9)
Mental health	25 (64.1)
<b>Context</b>	
In-patient	12 (30.8%)
Community	14 (35.9%)
Other	13 (33.3%)

Considering valid responses relating to opinions of the training session: 13 respondents reported themselves as *Satisfied* with the topic delivery (31.7%) and 28 as *Very satisfied* (68.3%). No respondents reported themselves as *Not satisfied*, and all respondents who completed the evaluation questionnaire reported that the attempt to use an MH/LD example helped in understanding the process.

Respondents were also asked to rate each of 4 teaching methods with a score out of 5. The method with the highest mean score was demonstration of clinical instruments, with a score of 4.73, followed by video (3.91), multiple-choice questions (3.14), and guided reading (3.13).

Amongst all respondents, the mean *Pre*-score was 3.54 (50.7%). The mean *Post* score was 5.41 (77.3%). Hence the mean change in score as a result of the intervention was 1.87 marks (26.7 percentage points) with a standard deviation of 1.34. (Figure 1). A small number of students obtained scores outwith the main body of data, and are indicated as outliers on the figure.

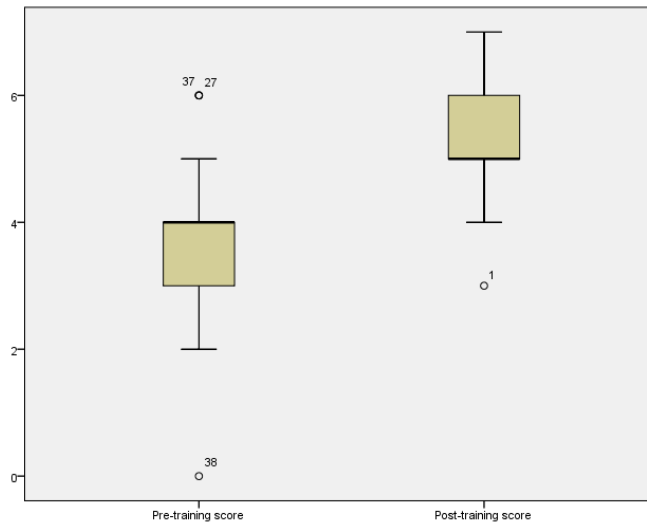


Figure 1: Intramuscular pre- and post scores (all students and practitioners)

A paired sample t-test was conducted on pre- and post-scores identified a statistically significant difference between pre- and post-scores ( $t_{(38)}=8.72$ ;  $p<0.001$ ; 95% CI 1.44, 2.31).

## Content Analysis

### Positive experiences of the workshop

The majority of written feedback was in line with the wholly positive results received from the statistical analysis. One particular part of the workshop was the skills laboratory time that facilitated participants to share knowledge and practice skills. This was particularly valued by three students, who commented:

*“Informative and useful to share tips in practice”;*

*“Useful to observe other practitioners administering medication. Open forum for discussion”;*

*“Useful to have time out with practice colleagues to practise skills”;*

Further positive comments centred on participant learning of new skills and knowledge:

*“Very relevant to practise to learn ‘new’ methods to implement in practise”;*

*“It helped my understanding of LAAs. Also I learnt about the new injection Paliperidone and how to administer it”;*

Some personal reflections were offered about how the workshop was a positive experience for them. One comment was about how it helped a transition in practice role:

*“Very useful after having just joined a CMHT after 17 years of dementia care”;*

Further comments showed how the delivery had facilitated learning through reflection;

*“Very relevant: makes you reflect about your own practice”.*

*“Took away some questions about own practice”.*

With some participants valuing the overall influence of the session:

*“Very relevant to validate and update own practice and when supervising/assessing”;*

*“Very good I have updated my knowledge and practice”*

*“Feel more up-to-date”.*

Some final comments were complimentary about how the workshop allowed for knowledge to be assimilated and skills to be practised and updated:

*“Well delivered good use of theory and practice”.*

*“Demonstration very useful and assisted in developing skill”.*

*“Well balanced session and practical help with understanding”.*

The resultant satisfaction with the workshop meant that negative comments were not found, but two respondents were disappointed that they did not get the chance to practice the ventrogluteal injection site, even though it was shown on film:

*“Could show the thigh intramuscular injection site”:*

*“More info on an alternative injection sites e.g. leg”.*

## **Discussion**

This article focused on an evaluation of an LAAI workshop designed to update the skills and knowledge of mental health nurses. The specific objectives for the workshop evaluation were to ascertain if there was a significant increase in participants' knowledge after the workshop; and to assess the rating of the workshop by participants in terms of increasing their knowledge and skills in administering LAAIs.

The overall aim of the workshop to increase the knowledge base of the attenders was successfully attained with a significant gain of 1.87 marks (26.7 percentage points) from the pre- to post-test scores. There was also validation shown regarding the participant's experience of the workshop overall with a 68.3% very satisfied and 31.7% satisfied with the delivery and content of the workshop. Different parts of the session were also valued highly on statistical scores and the open-ended written comments were positive about the theoretical and practice content and organisation. Gray et al. (2009) stated that simulation is one determinant of training and educating MHNs toward competently administering LAAIs. The shared learning of peers was and has been reported elsewhere as a popular feature of the session, and has been reported as a positive way of shared learning in a simulated setting (Jones et al., 2010)

For MHNs to have relevant underpinning knowledge of clinical decision making when administering LAAIs is of fundamental importance (Bersenius and Nolan, 2010). Psychotropic medication is a major part of the interventions available for people with psychosis and schizophrenia and can mean the difference between relative stability and relapse (Gray et al., 2009; Taylor, 2009). Some commentators have suggested they are an under-utilised resource in this juncture (Patel et al., 2003).

There is a known iatrogenic link for mental health service users who are administered LAAs, and distressing and life-shortening physical health problems which are associated with this therapy (Nash, 2011). Estimates are that service users diagnosed with a serious mental illness in the UK die at least 10-15 years earlier of chronic diseases than is the case in the general population (Thornicroft, 2011; Chang et al., 2011; Tiihonen et al., 2009). This is not to say that LAAs are the cause of all the physical health problems the service user is faced with; but having a sophisticated knowledge of the side effects that may be encountered in the short- and long-term could make a meaningful contribution to improved service user health status who are prescribed and receive LAAs as part of their treatment (Nash, 2011; Jordan et al., 2011). Gray et al. (2009) further suggests that service user choice and involvement in the decisions that are made about treatment is vital in making this still controversial treatment option as recovery-focused as possible.

If MHNs were to discuss treatment options rather than merely administering LAAs, then the service user may feel as though they had an influence in the delivery of their care (Phillips and McCann, 2007). This workshop did not facilitate the MHN attitude or interactive style, but facilitated knowledge that is hoped could be used in practice and therefore allow MHNs to advise service users as appropriate in decisions about their treatment.

The information imparted in the workshop also introduced the latest evidence regarding injection sites that were available and most effective both physically and also psychologically for the patient. Moreover, the dorsogluteal muscle is the one used by MHNs to administer LAAs, which is probably due to the fact that most of the preparations available are licensed for this site (Greenway, 2004). Secondly Wynaden et al. (2006) suggested that MHNs preferred to use the site due to it being perceived as more discreet for the service user than the ventrogluteal site. Two respondents would have valued more on the ventrogluteal site, and it may be that if the MHN was exposed to this injection site it would be used more often (Wynaden et al., 2006; Feetham and White, 2011). Certainly the evidence base seems to suggest it has advantages in reaching muscle mass rather than fat tissue; thus there is a greater chance that the optimal dose can be administered (Walsh and Brophy, 2010). Administering LAAs to the dorsogluteal site also has contra-indications with potential damage to the sciatic nerve (Mishra and Stringer, 2010).

There was also satisfaction that the participants were able to practice the deltoid injection by simulation. Thus it will be interesting if this new preparation availability has an impact on the administering site choice by MHNs in the future.

## **Conclusion**

Workshops such as the one evaluated in this article can help contribute to MHNs administering LAAs competently. This involves the MHN having the requisite skills and knowledge to practice so that the prescribed treatment has the optimum therapeutic outcome with a minimum of side effects. In turn the service user may well be more satisfied with their care and treatment and adherence levels may increase. Collaborative relationships between higher education institutions and NHS and other service providers aimed at improving the knowledge and skills of MHNs also can have a positive impact on clinical practice.

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