What is the relevance of coloured flags to osteopathic practice?

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Osteopaths are familiar with the concept of red and yellow flags in clinical practice, but other flags exist which also have a bearing on practice. This article describes the different types of flags that exist, their significance to clinical practice and the limitations of the flag system.

Traditionally the treatment of low back pain had focussed on the use of the biomechanical and biomedical models alone[1]. Longitudinal studies emphasised the impact of psychosocial factors and their impact on outcome, or the development of chronic persistent problems. The concept of yellow flags was introduced and has been widely adopted. This has been followed by the introduction of blue flags which describe the workplace itself, and black flags which address the wider context in which an individual functions including other personnel, systems, and policies[2,3,4,5]. More recently orange has been added to the spectrum, with pink included also although not officially recognised in mainstream healthcare.

The Accident Compensation Corporation of New Zealand highlighted in 2004 the importance of using a holistic approach when assessing patients presenting with spinal pain[3]. The biopsychosocial approach views pain and disability as a complex and dynamic interaction among physiological, psychological, and social factors, which perpetuates and may worsen the clinical presentation. Historically, the two most commonly recognised flags have been physiological (red flags), and psychosocial (yellow flags) risk factors associated with the progression from acute to chronic low back pain disability[1,2]. The use of the flag framework and its screening tools has had widespread application in clinical practice since its creation. However, it has been argued that they need to be regarded critically and considered not only in terms of their validity and reliability, but also for the effect their use might have on patient-clinician interaction and the clinical reasoning process[6].

Key messages

- Flags are not a diagnosis
- They are not definitive and should be used as part of a wider clinical picture
- They should not be used to label patients
- They are relevant to identify potential reasons for the persistence of a problem
- Flags are not present exclusively, and a patient may require help in more than one area concurrently
- They are relevant to identify when certain types of treatment may not be suitable for the best long-term patient outcome.

Red flags

Good case history taking is an implicit part of professional practice for all osteopaths. It can help to identify signs of serious pathology including tumour, fracture, infection, cauda equina syndrome which require onward referral for investigation and treatment. Additional red flags with which all osteopaths are familiar include the presence of significant trauma, unexplained weight loss, previous history of cancer, fever, intravenous drug use, long-term steroid use, severe, unremitting night pain, and pain that gets worse when lying down[7,8]. This list is not exhaustive but illustrative, and the presence of any red flag should be considered in conjunction with appropriate clinical examination.

Yellow flags

These are salient psychosocial risk factors involved in impeding the ability of an individual to improve and/or recover from acute pain episodes, and increasing the risk of developing chronic pain and disability. The presence of yellow flags is not indicative of malingering, and should be regarded as one of a range of interacting factors affecting the healing and recovery process[1].

In practical terms, yellow flags include the presence of catastrophising thoughts

which focus on the worst possible outcome; avoidance of activities due to expectations of pain and re-injury; having negative expectations of recovery; being preoccupied with health, having dysfunctional beliefs and expectations concerning pain, work, and healthcare; fear of movement; uncertainty concerning the onset of symptoms; concern regarding possible interventions to help symptoms and what to expect in the future. These factors can be accompanied by feelings of worry and distress; low mood (which may or may not be accompanied by a diagnosis of depression or anxiety); withdrawal from social contact; extreme symptom reporting behaviour; over reliance and positive expectations of passive coping strategies (e.g. hot packs, cold packs, and/or analgesia) and negative expectation of treatment outcome. These specific beliefs, behaviours, and mood have been associated with the risk of development of chronic pain[1,2,3,4,9].

Trying to identify an individual's beliefs concerning their spinal pain is key to assessing the presence or absence of yellow flags. A variety of measures have been used to accomplish this, but the use of questionnaires has been found to constrain patients' responses[7]. Identifying patients who are at risk of developing chronic pain is an essential part of effective practice. However, it is important not to take an overly-simplified approach which fails to recognise an individual patient's experience of pain and the meaning they may attach to such pain[6].

Blue flags

Blue flags have been defined as "an individual's perceptions about work, whether accurate or inaccurate, that can affect disability"[9]. Clinical psychologist Chris Main has been very influential in increasing awareness that certain working conditions and adverse workplace characteristics may place an individual at increased risk of disability, and present obstacles to recovery with associated delay in return to work[9,11]. Prolonged leave of absence from work can be problematic since the longer an individual is out of work, the more likely it is that they will fail to return to work. Bigos and colleagues have suggested that this is influenced by perception about symptoms, the safety of returning to work, and the impact of returning to work on an individual's personal world[12].

Items included within blue flags are largely based upon literature relating to workplace stress and control and the perception of how occupational factors can impact on recovery. Issues considered as blue flags include:

- A high demand/low control work environment in which workers perceive they are in a stringent, inflexible environment where they have little control over what is going on but, at the same time, are expected to be highly productive;
- The perception that the style of management is unhelpful;
- The belief that work is taking place under a perceived time pressure;
- The belief that poor social support is received from their colleagues;
- The belief that return to work will bring re-injury;
- The belief that return to work will not be possible;
- The belief that work is harmful;
- The perception that work is stressful;
- Dissatisfaction with current job;
- Dislike for the current job[13,14,15,16].

Factors including a work history that includes patterns of frequent job changes and lack of vocational direction, are considered also secondary to the above features.

The development of blue flags is relatively new and currently there are no standard guidelines available to assess them (although initial attempts are being made to rectify this situation[15]). The strongest construct to arise from factors listed as blue flags relates to recovery expectations. Systematic reviews have concluded consistently that there is strong predictive evidence that low expectation of return to work or recovery from symptoms is particularly important for prognostic information[16].

Black flags

These refer to more objective occupational factors that affect all workers equally. However, it may be difficult to differentiate between subjective and objective occupational stress factors, since they can be present independently or in combination with other factors. Black flags include nationally established policies concerning the conditions of employment and sickness policy, as well as working conditions that are specific to individual organisations.

Nationally these can include items such as salary rates, shift patterns, the number of work hours, ergonomic considerations (e.g. the necessity to lift items, and sustained working postures), nationwide negotiated entitlements related to sickness certification, benefit systems and wage reimbursement rates. At the level of an individual organisation, these can include items such as sickness policy, workers' entitlement to sick leave, the role of occupational health personnel and "signing off" and "signing on" requirements for full fitness. In addition, black flags can include misunderstandings between key personnel, issues relating to financial and compensation problems, negative expectations, fears or beliefs from spouse/partner or other family members and social isolation and/or dysfunction.

Black flags identify the need to involve other personnel (including other healthcare professionals) in an integrated approach to care[2,5,9].

Orange flags

These have been added to the flag framework recently. Orange flags represent the equivalent of red flags for mental health and psychological problems. They can help to alert clinicians to potentially serious issues that could be psychiatric in nature and require appropriate referral to a specialist.

This replaces the normal course of management that could be followed for mild mental health conditions such as anxiety. Orange flags can include excessively high levels of distress, major personality disorders, post-traumatic stress disorders, drug and alcohol abuse/addictions or clinical depression[17].

Pink flags

Pink flags are relatively new and are not officially recognised by many healthcare professionals since there has been little research to provide an evidence base. They were described originally in 2005 by Louis Gifford, a pain specialist physiotherapist to reflect his concern at the constant focus of medicine on aggravating factors associated with a condition at the expense of looking at relieving/improving factors[18]. Pink flags are positive factors that clinicians can try and identify and emphasise to promote the chance of a better outcome for patients. Pink flags can be influenced by giving reassurance, and educating appropriately to avoid the development of inaccurate and unhelpful beliefs[18].

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Thank you ...

National Council for NCOR Osteopathic Research

... to everyone who participated in the first round of the research priorities exercise and contributed their ideas.

As you may be aware, we are currently carrying out a Delphi study to establish the profession's views on what the priority areas should be for osteopathic research. We have asked osteopaths like you to complete an initial questionnaire to identify the priority topic areas and the rationale for these. Based on this information, the research team will produce a list of topics which osteopaths will be asked to rank in order of importance.

The data from the first round is currently being analysed, and the second round of the survey will be circulated later in the autumn. Further information concerning the progress of the study will continue to be published in this section of *The Osteopath*.

For more information about the project, please contact c.fawkes@qmul.ac.uk