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Original Article

A survey of knowledge, attitudes, and practices relating to musculoskeletal examination among pediatricians in Maharashtra, India

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ABSTRACT

Aims: To explore knowledge, attitudes, and practices relating to musculoskeletal examination (MSKe) in one state of India.

Methods: Pediatricians from the state of Maharashtra (capital – Mumbai) were invited to complete an 11-item web-based survey. Participation implied consent and the survey was based on a similar UK study. All pediatricians from the state of Maharashtra ($n = 1523$) were invited to participate; 223 pediatricians responded (response rate: 14.64%) with variable training in pediatrics and experience.

Results: Respondents reported similar time devoted within their consultations to management plan, history, and physical examination. Most ($n = 166$, 74.44%) had been taught to examine the musculoskeletal system in children ($n = 82$, 36.77%) or in both adults and children ($n = 84$, 37.67%). However, MSKe was not part of their current routine practice, despite many ($n = 115$, 51.57%) deeming this an important part of assessment. The majority ($n = 207$, 92.82%) were very confident ($n = 7$, 3.14%), or confident in some ($n = 120$, 53.81%) or most ($n = 80$, 35.87%) aspects of performing a structured MSKe, but were less confident with MSKe compared to other systems. Most ($n = 158$, 70.85%) were unaware of pGALS (Pediatric Gait Arms Legs Spine) prior to the survey but many ($n = 204$, 91.48%) were supportive of its inclusion within the curriculum for undergraduates and/or postgraduates, and expressed a desire to receive more information.

Conclusions: Many pediatricians are not confident in MSKe and are less confident compared to other bodily systems. There is need for greater training and awareness about the importance of MSKe at both undergraduate and postgraduate level. As a simple validated clinical skill, there is considerable potential to increase teaching of pGALS and thereby ultimately potentially improve MSKe performance in clinical practice.

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1. Introduction

Musculoskeletal (MSK) complaints in children are common,[1] and in many cases, the cause of the symptoms is benign, self-limiting, or trauma-related. Referral to specialist care is not always necessary, and in many cases, explanation and reassurance may suffice. However, the differential diagnosis is broad, and MSK symptoms can be presenting features of serious and potentially life threatening illnesses and chronic conditions such as malignancy, vasculitis, sepsis, and non-accidental injury; they can associate with many chronic conditions such as inflammatory bowel disease, cystic fibrosis, arthritis, and psoriasis. Moreover, delay in access to care is reported in childhood diseases that often present with MSK features including leukemia, bone cancer, neuroblastoma, muscular dystrophy, and juvenile idiopathic arthritis (JIA).[2–5]

Children and young people (CYP) with MSK problems invariably present to primary care or various secondary care specialties (usually general pediatrics, orthopedics, or emergency), and these doctors are important in the triage process to pediatric subspecialties. Thus, it is important that all doctors caring for CYP should be competent and confident in MSK examination (MSKe).

However, while pediatric musculoskeletal (pMSK) disorders are common in clinical practice, MSKe is a neglected clinical skill, which may contribute to the delayed or missed rheumatologic diagnosis in CYP.[6–8] pMSK problems often present with vague, poorly localized symptoms, and evidence demonstrates that taking the history alone fails to signpost to the extent of joint involvement.[9–11] It is therefore recommended that all CYP presenting symptoms of possible MSK disease undergo a 'top-to-toe' MSKe such as the pGALS (Pediatric Gait Arms Legs Spine) assessment.[9]

The pGALS assessment is a simple, quick, and evidence-based approach to basic pediatric MSKe, designed to enable the non-specialist in pMSK medicine to discern normal from abnormal,[12] and while not validated in India per se, it has been shown to be practical and useful, with excellent acceptability by children and their parents when performed by non-specialists in acute pediatric practice in the UK, Malawi, and Peru.[13–16] While originally developed and validated in school aged children,[12] experience shows that pGALS may also be successfully performed in younger, ambulant children, albeit observers need to be opportunistic pending cooperation and the attention span of the child.[17]

Pediatricians are well placed within their clinical environment to be exposed to CYP with MSK concerns, and may play an important role in decreasing diagnostic delay and missed diagnoses; however, they need to have the knowledge and confidence to examine joints. Thus, the aim of this study was to assess the knowledge, attitude, and practices relating to MSKe in pediatricians in one state of India. Moreover, given the potential impact of pGALS in terms of raising awareness about the importance of joint examination and facilitating earlier diagnosis of rheumatic disease in CYP, it is important to explore current knowledge and awareness of pGALS. Thus, a secondary aim of this study was to explore pediatricians' current awareness and knowledge in relation to pGALS and potential ways to improve this.

Table 1 – Training and experience in pediatrics.

	n (%)
Pediatric qualification	
Doctor of Medicine/Diplomat of National Board	180 (80.72%)
Diploma of Child Health	43 (19.28%)
Experience after qualification	
<5 years	48 (21.52%)
5–15 years	71 (31.84%)
>15 years	104 (46.64%)

2. Method

To explore knowledge, attitudes, and practices relating to MSKe in one state of India, pediatricians from the state of Maharashtra (capital – Mumbai) were invited to complete an 11-item web-based survey. All pediatricians listed on the professional database from the state of Maharashtra ($n = 1523$) were invited to participate and reminders were sent to encourage participation on three occasions between March and April 2014. Of the 1523 pediatricians contacted, 223 responded within the stipulated time period (response rate 14.64%), and these varied in terms of highest qualification and time in practice (see Table 1). Participation in the survey implied consent and the survey was derived from a proforma used previously in a similar UK study.[8] Within the survey, respondents were asked to provide detail on four key areas: (1) their qualifications, experience, and clinical practice, (2) their MSKe training (in adults and children) and confidence in MSKe compared to other systems (graded using a 4-point Likert scale), (3) awareness and use of pGALS and finally, (4) their preferred technique of MSKe teaching. Respondents were further asked to provide the average time devoted to physical examination within their consultation (as a percentage, while considering time spent on history and discussion/management plan). All responses were anonymous and the project was an audit of current clinical practice and thus exempted from ethical review.

3. Results

Respondents were asked what approximate proportion of their consultation was devoted to history, examination, discussion, and management plan; this was similar across the three areas, with approximately 1/3 of the consultation devoted to each. When asked about MSKe in particular, the majority of respondents had either been taught to examine the MSK system in children or both adults and children (see Table 2). However, despite this teaching for the majority of respondents, MSKe was not part of their current routine assessment even though many ($n = 115$, 51.57%) agreed that MSKe was an important part of the consultation (see Table 3).

When asked to rate their confidence in relation to performing a structured MSKe, most were confident in some (53.81%) or most (35.87%) aspects, but it appeared that