Patient expectations of manual and non-manual therapy within an osteopathic consultation: A cross sectional study

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STATEMENT OF CONFLICTS OF INTEREST

The authors declare no conflicts of interest for the project entitled 'Patient expectations of management within an osteopathic consultation.'

ETHICAL APPROVAL

This research was approved by the Victoria University Human Ethics Research Committee (Approval number: HRE19-129)

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APPENDICES

Appendix 1: Survey administered to participants

1a) Have you seen an osteopath before?

☐ Yes – Once ☐ Yes – Multiple Times ☐ No

If you answered no, please proceed to question 2

1b) If yes, what area(s) of pain/concern did you consult the osteopath for? (can select multiple answers)

☐ Head and/or Face ☐ Neck ☐ Shoulder and/or Upper Arm
☐ Elbow and/or Forearm ☐ Wrist and/or Hand ☐ Mid Back
☐ Chest and/or Ribs ☐ Abdomen ☐ Low Back
☐ Pelvis and/or Hips ☐ Thigh ☐ Knee ☐ Lower Leg
☐ Ankle and/or Foot

2) What area(s) of pain/concern are you wanting treated today? (can select multiple answers)

☐ Head and/or Face ☐ Neck ☐ Shoulder and/or Upper Arm
☐ Elbow and/or Forearm ☐ Wrist and/or Hand ☐ Mid Back
☐ Chest and/or Ribs ☐ Abdomen ☐ Low Back
☐ Pelvis and/or Hips ☐ Thigh ☐ Knee ☐ Lower Leg
☐ Ankle and/or Foot

3) Thinking about your consultation today, what approximate ratio of manual treatment (e.g. massage, stretching, manipulation) and/or non-manual treatment (e.g. advice, exercise rehabilitation) do you expect?

☐ 100% manual treatment, 0% non-manual treatment
☐ 75% manual treatment, 25% non-manual treatment
☐ 50% manual treatment, 50% non-manual treatment
☐ 25% manual treatment, 75% non-manual treatment
☐ 0% manual treatment, 100% non-manual treatment

4) On a scale from 1 (extremely unlikely) to 5 (extremely likely), how likely would you be to attend an osteopathic consultation where you were provided with non-manual treatment only (e.g. exercise rehabilitation and/or advice), if it was best practice for your pain/concern?

☐ 1: extremely unlikely
☐ 2: unlikely
☐ 3: maybe
☐ 4: likely
☐ 5: extremely likely

ABSTRACT

Introduction: Patient expectations of an osteopathic consultation can influence their evaluation of the effectiveness of osteopathic management. Throughout an osteopathic consultation practitioners' may use manual therapy (MT) and/or non-manual therapy (NMT). Currently, little is known regarding patient's expectations and preferences of osteopathic management.The aim of this study was to identify patients' expectations of their management within an osteopathic consultation, specifically in terms of the ratio of MT and NMT.

Methods: New patients to the Victoria University student osteopathic clinic were invited to complete a 5 question likert survey about their previous osteopathic experience; body region to be treated, and the expected ratio of MT to NMT during the consultation.

Results: Overall,Of the 161 participants, 85.7% expected a ratio of 75:25 or 50:50 MT to NMT (Q3), while 49% of participants were 'extremely likely' to 'likely' to attend a solely NMT consultation, if it were best practice for their condition (Q4). No significant difference was identified between responses to Q3 or Q4 when grouped according to the number of previous osteopathic consults, or gender. There was a positive, weak correlation between Q3 and Q4.

Conclusion: The majority of participants expected their osteopathic consultation to consist mostly of MT. This study enhances osteopaths' understanding of patient expectations, which can contribute to the formulation of improved education and management plans. Future research should focus on strategies on how to best align patient expectations of management with the broader evidence base.

Key terms: Osteopathy; manual therapy; non-manual therapy; patient expectations; osteopathic consultation

INTRODUCTION

Musculoskeletal conditions are responsible for a significant amount of persistent pain and disability, with research suggesting individuals are more likely to experience musculoskeletal pain compared to any other [1-3]. Further, it has been reported that the biggest loss of productivity in the workforce is due to poor musculoskeletal health, which can lead to early retirement and decreased financial stability [1]. In Australia for example, the number of chronic musculoskeletal pain patients is estimated to increase from 3.24 million in 2018, to 5.23 million in 2050 [4]. This expected rise within the population is therefore not only likely to affect individual's health-related quality of life, but also their economic and social position within society.

Osteopathy is a regulated health profession in at least 15 countries including: The United Kingdom, Australia and Canada [5]. Of these, the United Kingdom (UK) has the highest number of registered practitioners with 5,334 in 2018-19 [6], seeing on average 42 patients per week [7]. It has been estimated that annually, Australian osteopaths approximately manage 3.9 million patients [5], with a 7.1% increase in practicing osteopaths in 2018 compared to previous years [8]. Of patients seeking osteopathic care, the majority presented with a musculoskeletal complaint, with 41.5% identifying the spine as their main area of concern [9]. Osteopaths utilise a combination of manual therapy (MT) and non-manual therapy (NMT) when managing musculoskeletal conditions. MT typically involves a health practitioner applying a local intervention to a musculoskeletal structure, to reduce pain and restore function [10-12]. This type of therapy is grounded in the biomedical reductionist approach and includes techniques such as: soft tissue technique, manipulation and passive joint articulation [13]. Non-manual approaches are interventions that do not require the practitioner to use physical contact or force to decrease the patients' pain [10, 11]. Examples of such interventions include patient education, exercise rehabilitation, mindfulness-based techniques [14], cognitive behavioural therapy (CBT) and pain neuroscience education (PNE) [10, 15, 16]. Typically, these approaches focus on the biological, psychological and social aspects of an individuals' pain [10, 11]. A recent workforce survey in Australia demonstrated that the most frequently used MT and NMT interventions were soft tissue techniques, muscle energy techniques (MET) and exercise prescription [5]. Of the osteopaths surveyed, 85.7% use soft tissue techniques, 79.5% use MET and 74% use exercise prescription, with

some also recommending lifestyle changes as a part of their management plan [5]. Therefore, the current evidence describes that osteopaths manage their patients using a multi-modal approach, employing both MT and NMT.

Patient expectations are defined as the anticipation that given events are likely to occur during, or as a result of a healthcare consultation [17]. An individuals' expectation of a consultation influences the perceived effectiveness of their management [17-20]. Thompson and Sunol [21] have developed a healthcare model, centred on four types of patient expectations: predicted, ideal, normative and unformed. A predicted expectation is the patients' perception of the outcome of treatment, while an ideal expectation is a treatment preference from the patient. A normative expectation is the patients' assumption of what is likely to occur during the consultation, such as, the professionalism of the healthcare practitioner or the performance of treatment. An unformed expectation is when an individual is unable to articulate their expectation due to fear, anxiety or conforming to social norms [21, 22]. Knowledge of patients' expectations is likely to mitigate dissatisfaction or frustration with management, reduce exposure to liability and enhance their overall healthcare experience [21, 23]. Further, practitioners can educate patients, aiming to change their expectations to align with evidence-based management strategies [22]. Meeting these expectations can lead to more favourable pain outcomes [24] and generate meaningful treatment plans grounded in patient-centred care [18-21, 25, 26].

When seeking symptomatic relief from manual therapists, patients are more likely to expect MT in comparison to NMT [9, 27, 28], with research suggesting that patients have lower expectations of the benefits associated with adjunctive treatment modalities provided by manual therapists (i.e. exercise rehabilitation and education) and rest [29]. However, findings have also indicated that patients expect a better outcome with a combination of MT and NMT in comparison to MT alone, which is consistent with typical osteopathic practice [5]. However, these expectations vary from patient to patient [29, 30]. Patients can often have specific expectations based on previous experience highlighting the need for practitioners to balance patient expectations and best practice guidelines [31]. The expectations of osteopathic patients are multifaceted, incorporating approximately 50 different components of management ranging from professionalism to clinical competence [28]. Despite this, there has been no

research focusing specifically on patient expectations of MT and NMT in an osteopathic consultation. To this end, our study aims to identify patients' expectations of their management within an osteopathic consultation, specifically in terms of the ratio of MT to NMT. The results will inform the osteopathic profession by contributing to a better practitioner understanding of patient expectations. Ultimately, this will improve patient satisfaction, and the patient-practitioner relationship, contributing to overall better health outcomes [18-20, 25, 26].

METHODS

Ethics approval

Ethics approval was granted by the *Removed for Blinding*

Study Design, participants and sample size calculations

This study employed an observational, quantitative cross-sectional design. The participant population was a convenience sample sourced via the Victoria University (VU) student osteopathic clinic at the Flinders Lane campus, Melbourne, Victoria, Australia. As the majority of osteopathic students who recruited patients for the survey were not researchers involved in this project, selection bias was minimised. Previous clinical data from VU calculated that approximately 900 new patients presented to the clinic over the course of 12 months [32]. Using a 95% confidence interval and a 5% margin of error, the ideal sample size for this study was calculated at 322 participants across a data collection period of 12 months. This figure was adjusted for a six-month data collection period, and a target number of 161 participants was defined.

Evaluation

Data was collected internally from the VU student osteopathic clinic via a questionnaire (Appendix 1). The survey used a 5-point Likert type questionnaire. The survey developed for this study was adapted from research completed by Leach, et al. [28] and Salian and Modi [27]. Initially, patient demographic data was collected. Primarily, participants were asked whether they had previously seen an osteopath and if so, which anatomical region had been treated previously (Q1a and Q1b). They then identified anatomically, which region was of primary concern for their consultation on the day of the survey (Q2). Subsequently, participants were questioned on the ratio of expected MT and NMT (Q3). To ensure

patient understanding and minimise confusion, in Q3, MT was defined as massage, stretching or manipulation and NMT was defined as advice and exercise rehabilitation. Finally, participants were surveyed on their likelihood of attending a 100% NMT consultation if it were best practice for their condition (Q4). The survey (Appendix 1) was attached to the back of the VU student clinic new patient form and was completed prior to the consultation.

Data analysis

Quantitative data was manually entered into Microsoft Excel for analysis (Microsoft, Washington, USA) and exported to SPSS Version 25 (IBM, New York, USA), where descriptive statistics were generated for each questionnaire item. A Kolmogorov-Smirnov Test was used to test for statistical normality. Mann-Whitney U and Kruskall-Wallis non-parametric testing was used to analyse the inter-group response differences, and a Spearman's rank-order correlation test analysed response correlations.

RESULTS

Demographic data

In total, 161 (N=161) new patients completed the questionnaire. Of the respondents, 61 (37.9%) identified as male, and 100 (62.1%) as female, with a mean age of 32.72 years (SD ± 13.15). Of the 161 participants, 79 (49.1%) had not previously attended an osteopathic consultation, while 27 (16.8%) had previously attended one osteopathic consultation outside of the VU student clinic, and 55 (34.3%) had attended multiple osteopathic consultations outside of the VU student clinic (Table 1).

Table 1: Characteristics of the 161 respondents included in the analysis

Characteristic	**This study %**
Gender	
Male	37.9
Female	62.1
Age	
Male	31.31 ± 12.65
Female	33.60 ± 13.43
All	32.72 ± 13.15
Previous Osteopathy Consultation	
Yes – once	16.8
Yes – multiple times	34.3
No	49.1

Area of presenting complaint and treatment sought by patients

Both previous and current symptomatic areas demonstrated a wide range of complaints. The most common areas of symptomatic areas of complaint for today and previous osteopathic treatment were neck, low back, midback, and shoulder/upper arm (Table 2).

Table 2: Area of presenting complaint and treatment sought by patients in student clinic

Symptomatic Area	Previous Consultation %	Today %
Head and/or face	6.2	4.3
Neck	29.8	40.4
Shoulder and/or upper arm	21.7	36.6
Elbow and/or forearm	3.1	8.7
Wrist and/or hand	3.7	6.2
Mid back	23.0	30.4
Chest and/or ribs	6.2	5.6
Abdomen	1.9	1.9
Low back	21.7	37.9
Pelvis and/or hips	14.3	21.7
Thigh	3.7	5.6
Knee	13.7	17.4
Lower leg	3.7	6.2
Ankle and/or foot	8.7	12.4

Patient Expectations of management ratios, and likelihood of attending a NMT consult

Of our sample, 85.7% of patients expected either a 75:25, or 50:50 ratio of MT to NMT with the mean Likert rating response being 2.35 (Q3) (Table 3). Additionally, 31.7% would 'maybe' and 36.6% would 'likely' attend a 100% NMT consultation, if it was best practice for their complaint, representing a mean Likert rating response of 3.39 (Q4) (Table 3).

Table 3: Perecentage responses for Q3 and Q4

Q3 Responses (Likert Rating)	**%**	**Q4 Responses (Likert Rating)**	**%**
100:0 (1)	11.8	**Extremely unlikely** (1)	3.7
75:25 (2)	44.7	**Unlikely** (2)	15.5
50:50 (3)	41.0	**Maybe** (3)	31.7
25:75 (4)	1.9	**Likely** (4)	36.6
0:100 (5)	0.6	**Extremely likely** (5)	12.4
Mean Likert Response	2.35	**Mean Likert Response**	3.39

Inferential statistics

There was no significant difference found in relation to the approximate ratio of MT:NMT patients were expecting (Q3) (U = 2863, p = .477, r = .056), or for the likelihood of attending a 100% NMT osteopathic consultation, if it was best practice for their condition (Q4) (U = 2667, p = .318, r = .079), when grouped by male and female gender (Figure 1). Furthermore, no significant different was found between the participants responses to Q3 ($X^2(2) = 2.910$, p = .233) or Q4 ($X^2(2) = 2.756$, p = .256) when grouped according to number of previous osteopathic consults (Figure 2). A Spearman's rank-order correlation demonstrated a positive, weak correlation between the responses to Q3 and Q4 (p < .01), ($r(161) = .21$).

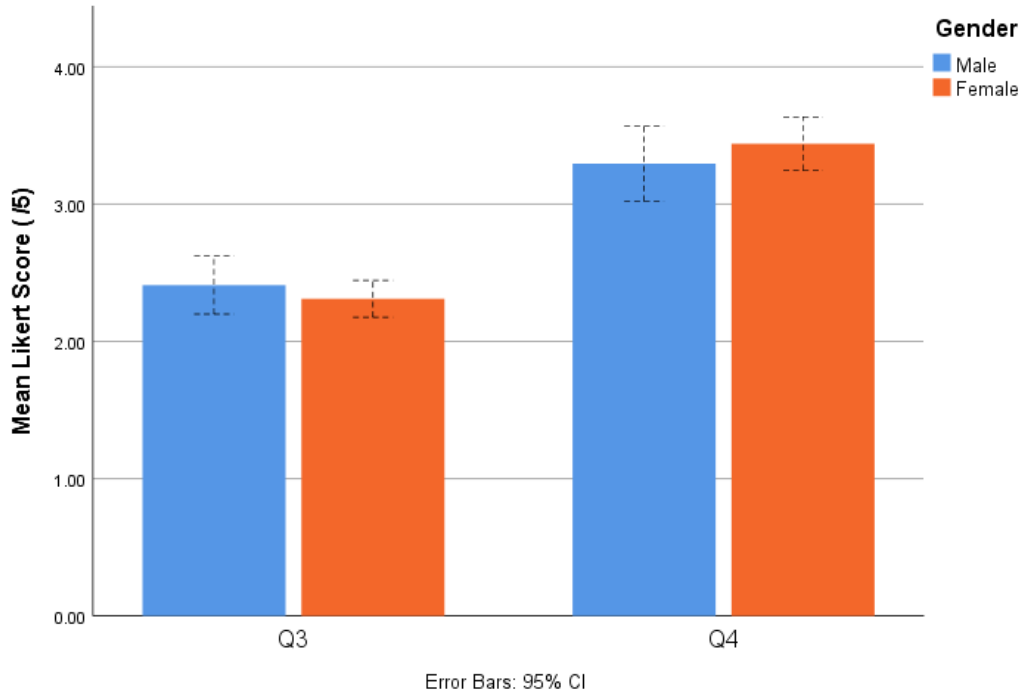

Figure 1: Mean responses to Q3 and Q4, grouped by male and female gender

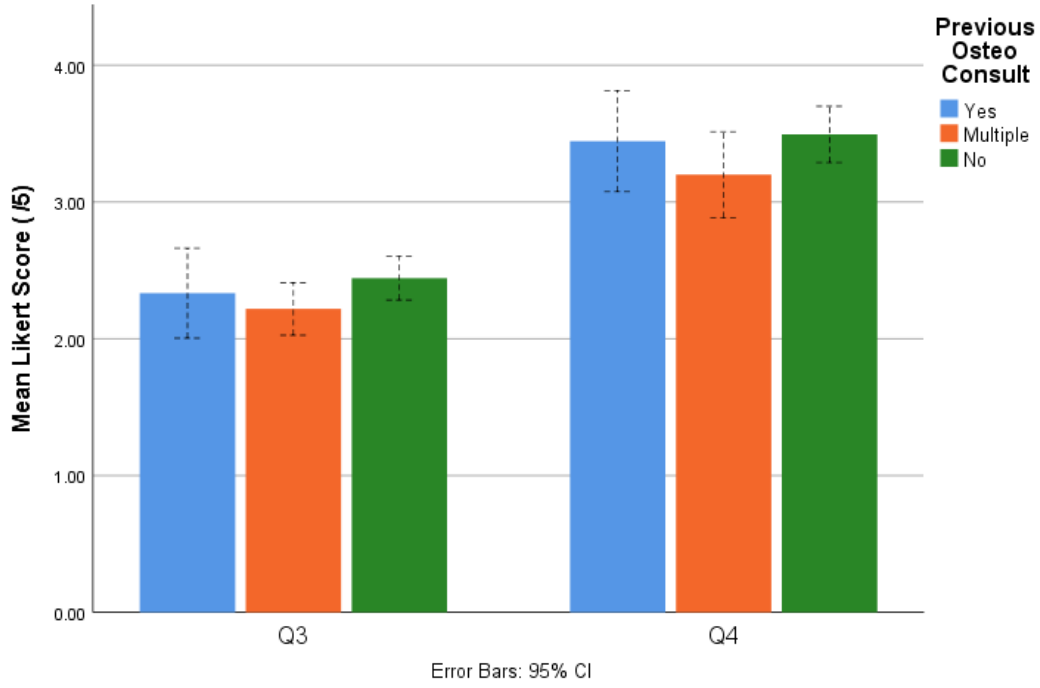

Figure 2: Mean responses to Q3 and Q4, grouped by previous number of osteopathic consultations

DISCUSSION

Patient expectations have an intrinsic effect on their satisfaction with healthcare, which can subsequently impact the outcome of their management and compliance [18-20, 25, 26, 33, 34]. Research has explored patients' expectations of osteopathy, however, a specific investigation into the preferred ratio of MT and NMT remains un-investigated. The aim of this research was to understand patients' expectations of osteopathy in terms of the expected ratio of MT and NMT in their consultation. A better understanding of these expectations will enable osteopaths to improve patient experience, patient-practitioner rapport and facilitating subsequent improvements in health outcomes [18-20, 25, 26]. The results of our study demonstrated that the majority of participants (97.5%) expected at least half of their consultation to consist of MT. While approximately half of the participants (49%) were likely to attend an osteopathic consultation consisting of solely NMT, provided it was best practice for their condition. Interestingly, there was a correlation between treatment expectation ratios and the likelihood of attending a 100% non-manual consultation, if it were best practice. This demonstrates that in a student clinic setting, most patients expect a large proportion of their consultation to consist of MT.

Previous research conducted by Salian and Modi [27] on chronic musculoskeletal pain patients' expectations of physiotherapy management, found MT alone to be the preferred treatment option, followed by exercise therapy alone, indicating that chronic pain patients may have a predilection to MT. Despite the preference for MT being consistent with our findings, the participants in this study were not grouped according to pain duration, which may have yielded different results. Additionally, a study by Leach, et al. [28] demonstrated that approximately 81% of osteopathic patients expected to be given exercises to do at home, and 96% expected to be given advice on self-management. In contrast, the majority of patients in our study expected a higher proportion of their consultation to consist of MT, rather than self-management strategies. That said, the percentage of patients who were new to osteopathy in our study was 49.1%, which was considerably higher than those in Leach, et al. [28]. This indicates that patients who have not experienced osteopathic management may exhibit a preconceived expectation of higher proportions of MT, compared to NMT. Similarly, research by Lam, et al. [34] focused on patient experience, satisfaction, perception and expectation of osteopathic

manipulative treatment. The study found some of the most prevalent patient expectations to be: an explanation of benefits, the diagnosis and management plan, including self-management, to be heard, and to be shown empathy and respect. The less prevalent expectations were the application of MT and symptomatic relief. These results are unlike our study, where majority of patients expected a higher proportion of their osteopathic consultation to consist of MT. The intention of our study was to ask patients exclusively about management MT and NMT modalities. Patients may not conceptualise that patient-practitioner communication is an element of NMT, which may be an underpinning reason for these conflicting results.

Previous studies demonstrate the significance that patients put on aspects of the consultation other than MT. Research by Leach, et al. [35] found that the main expectations of osteopathic care were, confidentiality, to be listened to and respected, the osteopath to take a thorough history and to only treat one patient at a time. Additionally, research focusing on osteopathic patients' expectations by Cross, et al. [36] found the five main reoccurring themes reported by patients to be: individual agency, professional expertise, customer experience, the therapeutic process and interpersonal relationships. Despite our study only addressing the treatment modalities employed, differences in patient expectations could be due to methodology, settings and patient demographics in these studies. Both Cross, et al. [36] and Leach, et al. [35] utilised a qualitative methodology, whilst our study was quantitative.The narrative response from qualitative methodologies may have enabled participants in the studies by Cross, et al. [36] and Leach, et al. [35] to expand on their past experiences and expectations more deeply, hence the contrasting findings. The studies by Cross, et al. [36] and Leach, et al. [35] were also conducted in a private practice setting in the UK, whereas our study was conducted at the VU student clinic. Private practice and student clinics generally have a different patient demographic, with student clinic patients possibly having a lower health literacy and socioeconomic status [19, 32] . It has been shown that patients with lower health literacy ask less questions in their healthcare consultations and are less involved in their medical decision making [38], this may further explain the differences between the results of our study in comparison to the studies conducted by Cross, et al. [36] and Leach, et al. [35]

Acute and chronic pain patients have differing experiences of healthcare and therefore, expectations of their management [39]. Chronic pain is more complex and multi-factorial than acute pain, indicating

the two pain states should not be managed the same [40]. The scope of osteopathy, and the current state of literature, encourages practitioners to utilise therapy modalities which are considered NMT, in conjunction with MT [10, 11, 13, 15, 16, 27, 28, 30, 31, 35, 39]. With this in mind, osteopaths need to manage patient expectations and build rapport with their patients, so that they are willing to explore unexpected treatment approaches [28, 34-36, 39]. In the context of chronic pain management, improved patient rapport achieved through the understanding of patient expectations, may facilitate an easier uptake of modern, NMT interventions such as PNE, CBT, mindfulness, or other educational strategies based around thoughts, beliefs and perceptions of pain [10, 15, 16]. Educating patients on their pain perception can positively impact their pain beliefs and cognitions, and may even augment outcomes when used in conjunction with MT [10, 15, 16]. Our study did not differentiate between participants with acute or chronic pain, which may have yielded different results. Therefore, future studies which directly address patients' expectations, in terms of MT and NMT, should aim to explore the differences between acute and chronic pain patients.

Patient expectations within a healthcare setting are assumptions of the services they will receive [21, 29, 31]. A positive correlation was identified in our study between the patients who expected a greater percentage of NMT and those who were willing to attend a completely non-manual consultation, if it was best practice for their condition. However, approximately 50% of participants gave neutral or negative responses to the question. As suggested by Thompson and Sunol [21] and Bialosky, et al. [22], the majority of 'neutral' or 'negative' responses in our study could be attributed to participants' ideal, predicted or normative expectations of osteopathic practice. We surmise that here, participants chose the therapy modality that they expected to result in their maximal satisfaction [18, 19, 21, 31]. As the population consisted of new patients, they may not have the experience or knowledge to formulate educated expectations [21, 31]. Therefore, a new patient's expectations of osteopathic therapy could be developed based on their experiences and education provided by their practitioner [18, 21, 31]. Furthermore, a challenge in osteopathy and health care more broadly, is to balance managing these expectations, whilst providing evidence-based care to ensure patient satisfaction [28, 34]. Patient expectations are beliefs that are continuously changing with their accumulated experience and satisfaction, and through a better understanding of patient expectations, we may be able to

contribute to developing strategies that facilitate the alignment of patients' normative expectations with the evidence base at large.

Future research

Future research could investigate the relationship between acute and chronic pain and the patient's expected ratio of MT compared to NMT. Patient expectations are dynamic and evolve over time [21]. Consequently, a longitudinal study following patients over time and observing how their expectations change, would be beneficial for building on the results of this study. Future studies should also explore ways to align patients' beliefs and expectations with best-practice management.

Limitations

The main limitation of this study that may have impacted our results was selection bias of the population. These participants were recruited from a singular osteopathic student clinic in the Melbourne metropolitan area, and therefore generalisability of our results is limited. The response rate of women was also much higher than men (62% vs. 38%), however, our analysis revealed no significant differences between gender (Figure 1). To prevent data from being skewed, it would be useful for future studies to achieve a larger sample size, from different geographic locations. Although the survey explained and defined MT and NMT, perhaps a more detailed explanation of these differences may have yielded differing response rates, however,a more detailed explanation was not feasible due to the time constraints of this study.

CONCLUSION

This research set out to explore patients' expectations of an osteopathic consultation, specifically in terms of the ratio of MT and NMT. Our study concluded that majority of patients expected at least half of their consultation to consist of MT, with a small percentage of participants likely to attend a solely NMT consultation, if it were best practice for their condition. Additionally, we found a correlation between the expected treatment ratio, in terms of MT or NMT and likelihood of attending a non-manual consultation. This study contributes to osteopaths' understanding of patients' expectations, which will better enable practitioners to meet and manage them. The current state of the literature

supports NMT in conjunction with MT for enhanced long-term patient outcomes. Therefore, this study highlights the need for a better understanding of how to explain and justify evidence-based management, whilst adhering to patient expectations. This will ensure that both patient-centred and evidence-based care are being provided, facilitating higher patient satisfaction and better health outcomes. Future research should longitudinally assess patient expectations of management and formulate more effective ways of aligning patient expectations with the broader evidence base.

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*Appendix moved to title page as per instructions from journal manager