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Graham, Yitka, Hayes, Catherine, Mahawar, Kamal, Small, Peter, Attala, Anita, Seymour, Keith, Woodcock, Sean and Ling, Jonathan (2017) Ascertaining the place of social media and technology for bariatric patient support: what do allied health practitioners think? *Obesity Surgery*. ISSN 0960-8923 (Print) 1708-0428 (Online)

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**Title: Ascertaining the place of social media and technology for bariatric patient support: what do allied health practitioners think?**

Type of Manuscript: Type 1, original contribution

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## **Shortened title: patient support and social media**

**Keywords:** social media, bariatric surgery, patient support, patient support technology, mobile apps

## **Abstract**

### **Background**

There is an increasing presence of patient-led social media, mobile apps and patient support technology, but little is known about the role of these in the support of bariatric surgery patients in the UK. This study aimed to seek the views of allied health professionals (AHPs) working in bariatric surgical teams to understand their current perceptions of the role of social media, mobile apps and patient-support technology within bariatric surgery in the UK.

### **Methods**

A confidential, printed survey was distributed to the AHPs at the British Obesity and Metabolic Surgery Society (BOMSS) 7<sup>th</sup> Annual Scientific Conference in January 2016. An

email to AHPs who did not attend the conference was sent requesting voluntary participation in the same survey on-line through Survey Monkey® within two weeks of the conference.

## **Results**

95 responses in total were received, which was a 71% response rate (n= 134). Responses were from Nurses (34%, n= 46), Dietitians (32%, n=32), Psychologists (16%, n=12) and 1 Nutritionist, 1 Physiotherapist, 1 Patient Advocate, 1 surgeon and 9 respondents did not fill in their title.

## **Conclusion**

The use of social media and mobile apps by patients is increasing, with AHPs concerned about misinformation; advice may differ from what is given in clinic. Technologies, e.g. telehealth and videoconferencing are not widely used in bariatric surgery in the UK. AHPs are unclear about the role of technologies for bariatric surgical patient support. Further discussions are needed to understand the potential of technology with AHPS supporting/facilitating patients as this becomes more commonplace.

## **Introduction**

Patients are increasingly using social media and mobile apps for support in managing their health (1). Technologies such as telehealth and videoconferencing are being used with

increased frequency by healthcare providers with patients in terms of supporting and managing their health (2). With bariatric surgical patients, having support to develop and maintain a healthy lifestyle pre- and post-operatively is important for weight loss and improve the associated comorbidities as a result of obesity (3-5). Patients attending routine clinical appointments and patient support groups often mention using social media and technology to health care practitioners, but no studies were found which examined how practitioners engage with patient-led social media and mobile apps. There is also a dearth of information and the use of technology such as telehealth and videoconferencing in routine bariatric surgical patient care pre and post-operatively (6, 7). No studies were found which explored the use of social media with bariatric surgical patients. A review of 38 smartphone apps for weight-loss surgery found no healthcare professional input and called for a 'quality stamp' from bariatric surgical bodies (8). This finding is congruent with the concerns about the quality of information on mobile apps expressed by the respondents in this survey. A study examining the feasibility of videoconferencing for post- bariatric surgical support with seven patients in Scotland found both clinicians and patients found the technology user-friendly and useful (9). Concerns over the accuracy of self-reported measurements, as highlighted by the respondents in this survey, were reported in further studies (10). An adjuvant group videoconferencing support service was offered to 117 bariatric surgical patients compared to solely face to face visits found no difference in weight loss after one year, but patients with depression had significantly higher health-related quality of life and lower depression scores. However, the authors report difficulties in evaluating the efficacy for the whole study population (11). The results of an on-line information programme for bariatric surgical patients found this method to be as effective as face to face consultations when participants were tested for their recall of the information given (12). A further study

with a high risk veteran population pre- and post-bariatric surgery in remote areas found high levels of patient satisfaction with no adverse surgical outcomes (13).

The aim of this study was to seek the views of allied health professionals working in bariatric surgical teams to understand their current perceptions of the role of social media, technology and patient support within the provision of bariatric surgery in the United Kingdom.

## **Methods**

A confidential, printed survey was distributed to the delegates attending an allied health professional (AHP) session on social media and technology during the Training Day of the British Obesity and Metabolic Surgery Society (BOMSS) 7<sup>th</sup> Annual Scientific Conference in January 2016. Any member of BOMSS who is not a surgeon is considered to be an allied health professional, and this definition is used for this study. To ensure that all AHP members of BOMSS had an opportunity to participate in the research, such as those who were unable to attend the conference, a further request to complete the same survey was emailed out to members through BOMSS management after the conference, requesting voluntary participation in the same survey on-line through Survey Monkey® within a two week timeframe.

## **Results**

There were 95 responses received from Allied Health Professional members of BOMSS, (79 printed surveys and 16 on-line surveys collected) which was a 70.8% response rate (n=134). Responses were from Nurses (34%, n=46), Dietitians (32%, n=32), Psychologists (16%,

n=12) and 1 Nutritionist, 1 Physiotherapist and 1 Patient Support Advocate. 1 surgeon completed the survey and 9 respondents did not fill in their title.

The majority of respondents were from Southwest England, (22%, n=24) followed by London and West Midlands, (both 15% , n=16), South East England (14%, n=15), Yorkshire and Humber (10%,n=11), Wales and North West England,( both with 6%, n=6), North East England (4%,n=4), East Anglia (3%,n=3) and other (4%, n=4). There were no responses from Northern Ireland. 12 respondents did not complete this question. Findings showed that 81% (n=77) of participants worked in bariatric surgical units that ran Patient Support Groups. Respondents reported other sources of patient support which included Facebook, mobile apps, telehealth and videoconferencing.

### Facebook

Many respondents (76%, n=72) reported there were patient-led Facebook pages affiliated to their respective bariatric surgical units. The majority of respondents (77%, n=73) were not members of the Facebook site (see Table 1). When asked if there was a role for AHP's to engage with patients via social media (not just Facebook) 78% (n=74) said yes and 11% (n=10) specifically commented that time and commitment to these groups should be considered. Clearly, there are wider issues around social media; Table 3 highlights the AHP-reported advantages and disadvantages of patient-led social media.

### Mobile apps

AHPs reported that mobile apps are increasingly used by bariatric surgical patients as support tools for weight management, measuring physical activity and diet. There was a clear majority of respondents (71%, n=67) who encouraged bariatric surgical patients to use of mobile apps as a support tool, with 20% (n=19) who did not. The AHP-reported most

common mobile apps used by patients were MyFitnessPal® 55% (n= 52) and Fitbit® 25% (n= 24) (see Table 3). When asked if they had any concerns about the information that patients get from mobile apps, 11% (n=10) said no, 66% (n=63) AHPs said yes. The main reported concerns were 10% (n=9) stating quality of advice, 10% (n=9) apps originating from other countries giving conflicting advice from UK recommendations, 7% (n=7) risk of user error or misinformation and 6% (n=6) information from apps not being bariatric specific. Of the 18 mobile apps reported as being used by patients, only two were specific to bariatric surgery (see Figure 1).

### Telehealth and Videoconferencing

Telehealth uses technology to facilitate remote monitoring of aspects of patient health by healthcare professionals and this is an area of growing interest in the UK (14).

Videoconferencing refers to technologies such as Skype®. Both telehealth and videoconferencing have been used in the management of patients in other areas of health, but there appears to be little information on how this is presently used in the provision of support to bariatric surgical patients in the UK. Table 4 shows the AHP-reported responses to the current use of both telehealth and videoconferencing. When asked about the advantages and disadvantages of technology (telehealth and videoconferencing), nearly half the respondents, 39% (n=37) did not respond. The reported advantages and disadvantages are presented in Table 5. When asked to comment on any concerns about telehealth and/or videoconferencing, 13% (n=12) stated concerns about limited NHS resources e.g. time and money, 11% (n=10) stated difficulties in regulating and evaluating systems, 7% (n=7) that it was not a substitute for face to face appointments, 6% (n=6) cited difficulties in keeping up to date with advances in technology and 6% (n=6) raised concerns about the accuracy of information reported by patients to AHP's.

## **Conclusion**

Respondents appeared to be more aware of patient use of social media and mobile apps, with few reporting the use of telehealth and videoconferencing in their bariatric surgical units.

Coupled with the high rate of non-responders to the questions on advantages and disadvantages of technology, this may reflect low levels of knowledge and/or confidence in this area, or a lack of time and managerial support. The role of technology in terms of patient support is a broad subject and may not have been adequately captured in survey questions or participant responses. Additionally, telehealth is embryonic in terms of its use in bariatric surgery support in the UK; the UK National Health Service (NHS) has invested in this form of technology which has been used in other areas such as hypertension and diabetes (15). In relation to Skype®/videoconferencing, there has been research into the use of this technology in place of face to face clinic visits, but not within bariatric surgery provision in the UK.

Additionally we found that studies used different terminology when discussing telehealth and videoconferencing and it was difficult to understand whether the technologies discussed were voice only or video linked, but an issue which has been noted by health agencies (16).

It appears AHPs are aware of patient involvement in social media, such as Facebook, but whilst AHP's acknowledge the value of peer-support, they reported concerns about misinformation and dominant or negative patients influencing others, however, there was no consensus regarding the involvement of AHPs in patient-led support. There was reported high use of mobile apps by patients, but whether AHPs should be recommending these was a source of concern. As many of the apps used are not specific to bariatric surgery, there may be conflicting advice given, which could be confusing for patients.

There are limitations to this study. The participants were AHPs attending a UK bariatric surgical conference and did not include all AHPs working in bariatric surgical units. Aside

from one surgeon who helped facilitate the session, no other surgeons or other non-AHP professionals took part in the survey. We found both a low awareness and use of patient led/patient support technology in bariatric surgical units; those who responded positively may already be familiar with and using technology in practice. The purpose of the survey was to seek the views of AHPs to understand their current perceptions of the role of both social media and technology in patient support in bariatric surgical settings. Owing to the survey design, we were unable to differentiate the responses between the different AHP subgroups; the type of procedures performed on individual patients or the use of mobile apps and technology over time, such as pre- and at specific time points post-operatively.

With the increasing pressure of limited NHS resources, we feel there may be opportunities for bariatric surgical units to engage with the development and implementation of social media, mobile apps and patient support technology such as telehealth and teleconferencing. Involvement with these innovations may have save time and money, improve existing pre- and post-operative bariatric surgical services, and engage with groups of patients who do not, or are unable to attend routine appointments, such as known DNAs and patients with mobility problems. Engagement with mobile apps and social media by patients, with the role of healthcare professionals in the latter clearly defined, there may also be opportunities for patients to be more actively involved in monitoring their progress after surgery, not just in terms of weight loss, but also diet, exercise and other aspects of general well-being, further broadening the perception of 'success' after surgery (17). The concerns and issues raised by AHPs with respect to the role of social media, mobile apps and technology in terms of adjuvant support tools for bariatric surgery should continue to be explored and evaluated. With high levels of non-responses to questions on technology, further opportunities to educate and involve AHPs on the potential of telehealth and videoconferencing for patient care are recommended.

## **Conflict of interest**

KM is on the editorial board of Obesity Surgery. All other authors declare they have no conflict of interest.

Informed consent was obtained from all individual participants included in the study.

This article does not contain any studies with animals performed by any authors.

## **Author contributions:**

YG conceived the idea for the topic. All authors participated in the construction of the survey, analysis and manuscript writing. All authors have seen the final version and approve of it.

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