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**Title:** “Blood Letting” – Self-phlebotomy in injecting anabolic-androgenic steroids within Performance and Image Enhancing Drug (PIED) culture

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## **Introduction**

The uneasy relationship between the medical community and people who use enhancement drugs is grounded in initial claims made by scientists deeming AAS ineffective in building muscle (Pope, Phillips and Olivardia, 2002) and perpetuated by the culture of ‘ethnopharmacological’ knowledge or street knowledge in the bodybuilding community (Monaghan, 2001), where lay experiential knowledge of PIED use is relied upon more often than medical research. (Underwood, 2017). As a consequence, reticence to disclose details of use of enhancement drugs to medical professionals has been documented (Zanhow et al, 2017; Chandler and McVeigh, 2013; Pope et al, 2004).

The clandestine nature of certain practices in drug enhancement cultures has made their discovery elusive to researchers using traditional research methodologies. Several researchers have utilised an online setting and analysis of discussion fora postings (Underwood, 2017; Van Hout, 2014; Smith and Stewart, 2012; Jespersen, 2012) to gain access to rich, uncensored discourse between people who use enhancement drugs, the utility of which has been noted by social scientists (Barrett and Aldridge, 2016; Brennan, Wells and Van Hout, 2016). For example, evidence of use of synthetic cannabinoids and novel psychoactive substances ‘bath salts’ were seen in online forums four years prior to attracting clinical attention ( Paul, Chisolm & Johnson, 2016). While dissemination of ethnopharmacological information regarding use of AAS has occurred since 1981 with the publication of The Underground Steroid Handbook (Duchaine and Zumpano, 1981), the advent of internet organised communities of people who use AAS has exponentially expanded information sharing through thousands of online forums (Papangelis, Chamberlain and Liang, 2016).

New evidence with regard to a previously undocumented practice – self phlebotomy, (known as ‘bloodletting’ in contemporary injecting anabolic-androgenic steroid (AAS) culture) is the subject of this paper. Phlebotomy or ‘bloodletting’, where a vein is cut to release blood from the patient, has been practiced in medicine for over five millennia, originating in Egypt (Schneeberg, 2002). By the eighteenth century surgeons and psychiatrists were using “*purge and bleed*” therapy (Titmuss, 1970 pg 22), traditionally believed to expel disease from the body, but in reality a hazardous practice causing injury and death to many (Parapia, 2008). Bloodletting as a medical treatment was abandoned in the twentieth century (Titmuss, 1970 pg 22) and modern day phlebotomists are trained to take blood from patients only as part of blood donations, transfusions or for research purposes (Ogden-Grable and Will, 2005).

While self-phlebotomy has been documented in clinical case studies of psychiatric patients, people with eating disorders and those who self-harm (Dursun, Varol and Guvenir, 2010; Siegel and Chu, 2002; Szabo, 1993; Brown and Henderson, 1993; Vandereycken, 1993), the authors conducted an online study of PIED activity in forums in 2016. During the course of this study discussion of the practice of ‘bloodletting’ was observed and forms the basis of this paper. As far as the authors are aware, this is the first study to document ‘bloodletting’ as a self-directed health care measure amongst people who inject anabolic-androgenic steroids within PIED communities.

## **Methods**

Systematic internet searches were conducted using specific key words relative to generic, brand and “street names” of AAS (see table 1). Initial searches for AAS related terms yielded a total number of 544, 755, 094 hits. The first thirty pages were scrutinised and 441 urls were found in relation to AAS. Duplicates, websites which were not in the English language, websites which did not have a specific focus on the injecting use of AAS in the general

population and websites which did not contain discussion forum activity were excluded. Once exclusions had been made (n= 391) fifty discussion forums remained. The top six of these with the most traffic were chosen for analysis. One forum required registration and permission was sought to access the forum posts for research purposes. In line with current research consensus on ethical online research (Barrett and Aldridge, 2016) when we did not receive permission to access forums requiring moderator approval, we restricted data collection to the five forums which were publicly accessible through Google Search

The first 25 threads from each relevant sub fora within these five fora were downloaded in addition to a key word search across each site. Key word search terms were derived from prior theoretical constructs which were informed by the extant literature. Initial downloaded files (threads) relational to AAS totalled 4,212. Posts dated older than 2014, incomprehensible text and data not relative to injecting AAS (n=3275) were excluded and 937 files remained. The final data set of records was stored in an online, password-protected computer in an NVivo software file. For the purposes of this study, posts in relation to bloodletting (n= 14) were extracted from the final set of records for analysis.

## **Results**

The experiences of people who perform ‘bloodletting’ were published on public internet discussion forums. A detailed demographic profile of forum discussants cannot be presented here, due to the sporadic nature of details such as gender and age given, a lack of verifiable information, and duplicate screen pseudonyms. However, it was typical for forum discussants performing bloodletting to self-identify as male in posts. Three themes emerged from the data and are presented below.

### *Motivation to self-bleed*

Self- phlebotomy, self-bleeding or 'blood letting', was valued as a part of a health care regime amongst people who injected AAS in this study. It was also less commonly discussed in the forum as being useful to expel AAS from the bloodstream e.g. prior to an occupational blood test. Motivation to 'self – bleed' was largely grounded in experiencing symptoms of high blood pressure or a high red blood cell count (RBC) e.g. a flushed face and breathlessness, or being advised of same by a medical professional. High blood pressure and a high RBC was discussed in the forum as most likely to occur in individuals who injected high doses of AAS. Whereas it was commonplace for forum discussants to donate blood at licensed donation centres to combat this health problem, not being permitted to donate blood or not wanting to drive to a donation centre every time often prompted enquiries about self-phlebotomy in discussion fora threads.

#### *Blood letting practices*

Equipment required to perform a self-phlebotomy was reported as being a 16g – 18g needle, a 4mm piece of clear tubing purchasable on Ebay, a manual blood pressure cuff and an empty bottle. The blood pressure cuff was then worn to force the veins to protrude in the arm, and a needle threaded completely into a vein (the venipuncture site) while attached to the tubing. Blood would then pour into the bottle over three to ten minutes. Amounts drawn ranged between 250ml and a pint of blood. Some forum discussants reported then flushing the expelled blood down the toilet. People who were interested in self-phlebotomy were advised to drink lots of water and take aspirin the day before, to prevent blood from clotting. Some forum discussants expressed fear or trepidation about 'pinning' (putting a needle into) a vein, but they were advised that self-phlebotomy was 'easy' by those who had experience. However, people who expressed an interest in this practice were told to have a friend nearby in case of fainting.

#### *Health harms*

While no harms were reported by forum discussants in our study, potential harms associated with phlebotomy include improper selection of the venipuncture site resulting in nerve damage, arterial nick, injury caused by equipment not fitting the vein, haematoma, loss of too much blood, fainting, sudden drop in blood pressure, heart attack and death (Bou Assi and Baz, 2014; Ogden-Grable and Will, 2005). There are also sterilisation risks with the performance of a medical procedure at home potentially leading to infection. While sterilisation steps were described e.g. use of an alcoholic wipe, risk perceptions or awareness of potential of harm described by forum discussants was limited to the possibility of fainting during the procedure.

## **Discussion**

Historically, bloodletting holds ritualistic meaning, used to swear pledges, connect people deeply as ‘blood brothers’ (Oschema, 2006) and secure group bonding through “*pacto de sangre*” (Franco, 1987). However, blood is a fluid of life force and its shedding is also associated with “*disgrace, disgust, impotence, sickness and tragedy*” (Titmuss, 1970 pg 20). Of interest here is the association of blood loss with increased health amongst people who inject high doses of AAS. Vitellone (2017 pg 72) discusses how what is considered morality may differ within situational contexts, deeming acceptable that which may be unacceptable in societal structures. The situational context here is the online discussion forum, where bloodletting is not stigmatised. As social agreements were often made using figurative blood speech, blood has had social bonding qualities historically (Meyer, 2005). Bloodletting may be conceptualised as part of a repertoire of behaviours which signifies a distinction between a casual and a committed PIED lifestyle, and a hallmark of membership to an elite group of ‘serious’ AAS injectors who can handle high levels of risk (Lupton, 1999).

In addition to potential '*collective effervescence*' (Lupton, 1999 pg. 153), where communal engagement in risk taking results in pleasurable feelings of belonging and group bonding, displays of masculinity may be performed through acts of bloodletting within the discussion forum context. Many ancient initiation rites which involved bloodletting were conceptualised as illustrations of male dominance and endurance or as acts which '*grew boys into men*' (Meyer, 2005 pg 2). Historians theorise that as women's (menstrual) blood is conceived as a life giving force, men have competed to compete with this power through sacrificial bloodletting, which allows them to assert patriarchy (Meyer, 2005 pg 119).

Social constraints on masculinity may also underpin engagement in high risk behaviours, as posited in Lupton (1999), which states that late modernity as a sociocultural context places high value on a civilised, self-controlled male body. Performance of risk behaviours may act as conformance to societal notions of autonomy and self-containment, or they may provide a temporary escape from it (Lupton, pg 160). It is of interest that donation of blood is an altruistic act of civility and social servitude which bloodletting groups disconnect from when they self – bleed (Bennett, 2008). This may indicate reduced social connectivity through perhaps perceived discrimination or alienation. Through mastery of feelings of fear, anxiety or vulnerability, risk taking can lead to a greater and more defined sense of self (Lupton, 1999 pg 160).

The previously undocumented phenomenon of bloodletting is also situated in a wider social context; the contemporary culture of self-medication – defined as "*the taking of drugs, herbs or home remedies on one's own initiative, or on the advice of another person, without consulting a doctor*" (Bennadi, 2014). Self-phlebotomy in people who use AAS is a self-directed medical intervention, namely to reduce red blood cell count RBC. Cultures of self-medication are outlined in recent studies on medicines (Van Hout, 2014; Carlisle Maxwell,



2008) and psychoactive drugs (Hearne et al, 2016; Van Hout, 2014). It was seen in the larger study from which this article is taken from that forum discussants who injected AAS were autonomous in their navigation of risk associated with their use. This was evident by their reporting of self-education using online tutorials and videos, researching within discussion fora threads and gathering a substantial repertoire of knowledge on how to decide dosing, injecting practice and polypharming regimens along the continuum of their AAS use. In this regard, use of AAS was self-directed, and this extended to lay performance of an invasive medical procedure - phlebotomy- in order to self-manage the side effects of high dosing AAS.

The trend for individuals to take control of decision making in their own health care and consumption of medication may now extend to the performance of medical procedures at home. While incidences of self-surgery are documented in the literature and include self-amputation (Rahmanian, Petrou and Aamer Sarfraz, 2015), self-mutilation e.g. wedging a sewing needle between teeth in an effort to self-treat dental pain (Harper, 2002) home removal of ankle surgery implants (Moholkar, Krishnan and Sampson, 2000) and self-subtraction of pacemaker (Bordier and Robert, 2004), the majority of recorded incidences of the lay performance of medical procedures at home have been associated with psychiatric episodes (Rahmanian, Petrou and Aamer Sarfraz, 2015). Similarly, incidences of self-phlebotomy which have been documented scientifically (Dursun, Varol and Guvenir, 2010; Siegel and Chu, 2002; Szabo, 1993; Brown and Henderson, 1993; Vandereycken, 1993) were seen in those with mental health disorders. However, people in our study who engaged in self-phlebotomy were doing so routinely to support their overall health status. Self-phlebotomy occurred for some as a natural development of the AAS trajectory of use, as dosing was increased over time. The act of bloodletting was perceived as a valid intervention in the avoidance of health complications associated with higher doses. The potential for lay

conduction of medical procedures on the self in a space where people assume autonomy over their knowledge and understanding of the body and engage in self-medication and self-experimentation warrants further investigation. As posited by Titmuss, how blood is treated in the eyes of society may also influence on how “*human hearts, kidneys, eyes and other organs of the body may also come to be treated*” (Titmuss, 1970 pg 179).

Self-phlebotomists are likely to be a hard to reach group with regard to health service intervention due to the potentially stigmatising nature of self-bloodletting as an AAS related behaviour and the situation of this phenomenon in AAS injecting culture, a subpopulation somewhat estranged from the scientific and medical community. The aforementioned reticence to engage with medical professionals documented in the literature concerning people who inject AAS (Zanhow et al, 2017; Chandler and McVeigh, 2013; Pope et al, 2004) has positioned online communities and AAS ‘vets’ (established forum members with a long history of AAS use) as a primary source of harm reduction information. Medical treatment providers should be cognisant of the presentation of harms associated with self-phlebotomy in AAS injecting groups, and engage with individuals in a non-judgemental and empathic manner, which is mindful of the emphasis the AAS community places on freedom of choice and autonomy over one’s own body and healthcare.

## **Conclusion**

Our study is intended to provide the first snapshot of online communal activity around practice of self-phlebotomy or bloodletting amongst people who inject AAS. Further research in this area is warranted, and will be of benefit to healthcare workers, treatment providers and policy makers particularly as this relates to evidence informed and targeted harm reduction policies and effective public health interventions.

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