

## Cardiovascular Rehabilitation, Ballroom Dancing and Sexual Dysfunction

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Sexual dysfunction is an important public health concern, highly prevalent among men and women<sup>1,2</sup>. It is related to the major cardiovascular and metabolic diseases eligible for cardiopulmonary and metabolic rehabilitation (CPMR), such as systemic arterial hypertension, coronary arterial disease, heart failure, and diabetes *mellitus*<sup>3,4</sup>. Of the vascular, structural and functional abnormalities related to sexual dysfunction, the following stand out: endothelial changes; systolic pressure elevation; and atherosclerosis<sup>5</sup>.

Sexual function is a good parameter to assess the treatment of cardiovascular diseases, known to improve the quality of life of patients<sup>6</sup>, most of whom show interest in maintaining an active sexual life. Nevertheless, the manifestations of sexuality are usually underestimated by physicians and other health care professionals, in part due to cultural aspects, taboos and prejudice<sup>7</sup>. That should change, because, after a cardiovascular event or intervention, the instructions about sexual activity are as relevant as those concerning return to work and engagement into exercise programs<sup>8</sup>. The complexity of that relationship and the need for instructions have become evident in studies, such as the COPE-ICD, which reported, contrary to the expected, expressive sexual function worsening in patients of both sexes who underwent defibrillator implantation<sup>8</sup>.

Historically, the medicamentous treatment of cardiovascular diseases has been associated with worse sexual performance<sup>5,9,10</sup>. However, the new generation medications, such as modern beta-blockers (nebivolol and bisoprolol), diuretics (indapamide) and angiotensin-receptor blockers, seem to contribute to improve erectile dysfunction, especially by improving endothelial function and increasing cardiac fitness<sup>10,11</sup>, enabling the simultaneous treatment of sexual dysfunction.

Sexual function is mediated by a complex interaction of psychological and physiological factors (hormonal, vascular, muscular and neurological), which might all be influenced

by exercise<sup>3</sup>, emphasis given to the greater production and lower degradation of nitric oxide, considered the major mediator of male and female sexual function<sup>12</sup>. It is worth noting that research related to exercise and sexual function has shown that high doses of physical activity reduce the risk of acute myocardial infarction and sudden death during sexual intercourse<sup>13</sup>. In addition, among young men, those with better cardiorespiratory fitness are less susceptible to erectile dysfunction<sup>14</sup>. Thus, it is evident that physical exercise should be included among the interventions that benefit cardiovascular and sexual health<sup>11</sup>.

The effects of exercise on physical fitness, endothelial function, autonomic modulation and emotional aspects (anxiety, depression, self-esteem) evidence the broad spectrum of action of exercise, resulting beneficial for the treatment of cardiovascular and metabolic diseases, as well as for the management of sexual dysfunction.

However, the conventional forms of physical exercise offered in CPMR programs seem little attractive to provide the necessary adherence to treatment, justifying the search for new strategies<sup>3,15-19</sup>. In that context, ballroom dancing, a popular, ludic, pleasurable and socializing activity, should be considered, because it might contribute to increase adherence to exercise practice and optimize its benefits. The manifestation of sexuality can be potentiated by the combination of music and physical activity, in a situation that naturally propitiates high levels of well-being hormones, such as endorphins<sup>6,15</sup>.

Since 2007, in our CPMR programs in the city of Florianópolis, Santa Catarina state, ballroom dancing has been a mean of physical conditioning, with the adoption of various rhythms (*forró*, bolero, samba, merengue, waltz, rock and roll, and salsa). Rather than teaching the technique, which would require frequent interruptions, we have been aiming at maintaining patients active as long as possible to sustain their target heart rate zone during exercise training. By doing so, we have achieved higher adherence, with a better chronotropic response and arterial blood pressure control, factors widely associated with sexual dysfunction and even cardiovascular outcomes<sup>20,21</sup>.

The advantage of dancing as compared to conventional exercise methods incorporated to CPMR is mainly due to its characteristic of bringing people closer together, both physically and emotionally. In that context, ballroom dancing can be seen as a strategy to concomitantly treat cardiovascular diseases and sexual dysfunction.

### Keywords

Cardiovascular diseases; Rehabilitation; Exercise; Dance therapy; Sexual dysfunction physiological.

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Manuscript received February 25, 2013; revised manuscript May 27, 2013; accepted June 24, 2013.

DOI: 10.5935/abc.20130236

### Author contributions

Conception and design of the research and Critical revision of the manuscript for intellectual content: Gonzáles

Al, Carvalho GMD, Sties SW, Carvalho T; Writing of the manuscript: Sties SW, Carvalho T.

### Potential Conflict of Interest

No potential conflict of interest relevant to this article was reported.

### Sources of Funding

There were no external funding sources for this study.

### Study Association

This article is part of the thesis of master submitted by Ana Inês Gonzáles from Universidade do Estado de Santa Catarina (UDESC).

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