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SHORT COMMUNICATION

QUALITY OF LIFE AND HEALTH CONDITIONS REPORTED FROM TWO POST-POLIO CLINICS IN ISRAEL

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Objective: **To evaluate the perceptions of health and quality of life among a group of polio survivors in Israel and to identify potential activities for improving their quality of life.**
Design: **An observational study.**
Subjects: **The sample consisted of 101 polio survivors who sought treatment at 2 post-polio clinics in Israel. The majority of participants were between the ages of 45 and 65 years, and approximately 25% were wheelchair-bound.**
Methods: **Participants were invited to attend a seminar, where they were invited to complete a questionnaire on demographic variables, mobility, perceptions of and satisfaction with health status and quality of life, and the potential contribution of 16 activities to improve their quality of life.**
Results: **Participants had low physical scores and normative mental scores. Mean scores on the Short-Form-12 questionnaire for physical and mental components were 32.9 and 50.3, respectively. Approximately 70% expressed the belief that exposure to up-to-date information about post-polio, as well as participation in social activities, might improve their quality of life.**
Conclusion: **Information about the physical and mental components of polio survivors, as well as the desire to partake in specific activities for polio survivors, may serve as a basis for the operations and prioritization of service providers**

Key words: polio; physically disabled; health status; quality of life.

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INTRODUCTION

Life with a physical disability poses a complex challenge for polio survivors (PS) who were afflicted by the polio epidemic in Israel during the 1950s. As in other countries, they grew, matured, and became part of society despite their physical disability (1, 2). In the last 20 years, however, new health concerns among PS have been reported, including a decrease in functioning, quality of life (QoL) (3) and life satisfaction, (4) as well as an increase in depression not related to the initial disability, but rather to subsequent new health problems (4). Interestingly, family dysfunction and negative attitudes toward disability have been found to be more significant than individual health status in explaining the onset of depression (5, 6). Suggestions for intervention have included disease-specific programmes (3) based on multidisciplinary teams (7), psychological (4, 8) and social (9) support, and health promotion through smoking cessation, weight maintenance, and physical activity (10).

The question of whether this approach also applies to Israeli PS is unknown. Despite these recommendations, the services available in Israel for disabled people are limited. There are a few post-polio (PP) clinics whose services are restricted mainly to medical problems, and the services provided for the welfare of all disabled people focus mainly on sports activities. The Israel Knesset recently recognized its responsibility toward PS who were affected by the polio virus after the establishment of the state in 1948, and thus enacted the *Post-Polio Compensation Law*, providing financial support for this group (11).

However, the QoL of people with a chronic disability does not depend exclusively on an improvement in their finances (5, 6). Developing an up-to-date database on the health, social status and QoL perceptions of PS, as well as their priorities regarding potentially life-improving activities, could inform a decision-making process focusing on the special needs of this group. Thus, the objectives of this study were to study the demographic, health, and QoL characteristics of PS and to identify activities that have the potential to improve their QoL.

METHODS

Participants comprised a convenience sample of 101 PS who sought treatment at 2 post-polio clinics in central Israel. In the absence of available medical records we could not identify participants with post-polio syndrome (PPS). Therefore, all subjects throughout the study were given the general term "polio survivors" (PS). Nevertheless the target population of this study was the general population of PS and not only those who have PPS. It should be noted that PS attend PP clinics not only for addressing the PPS, but also for other reasons, such as degenerative joint diseases and routine follow-up. Patients arriving at the clinics were invited to participate in a seminar that would also serve as a research platform. At the beginning of the seminar, participants were requested to complete a questionnaire that was originally developed by the World Health Organization (WHO) for spinal cord injury subjects (Case Record Form for Patients – University of Munich, WHO Collaboration Project) and modified for the current study by adding questions about having children, occupational status, volunteer activities, car ownership, and the use of mobility assistive devices. In addition, health status and QoL were evaluated by the Short-Form (SF)-12 self-administered questionnaire (range 0–100) (12), which replaced the SF-36. Permission to use this form was granted by the WHO's project directors in October 2007, and a license to use the Hebrew version of the SF-12 was purchased in March 2008.

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Thus, the modified questionnaire consisted of demographic variables, mobility, perceptions of and satisfaction with health status and QoL, and co-morbidity. In the absence of medical files, participants were asked to report additional diseases on the Self-Administered Co-morbidity Questionnaire (SCQ) (13). Participants were also requested to rate the potential of 16 activities to improve their QoL on a 5-point Likert scale. The list of activities was developed by a steering committee of PS and professionals in the field, based on previous studies (7, 8). The activities were grouped into 4 categories: health-related knowledge enrichment and activities, remote communications, social activities, and individual therapy. The study was approved by the Helsinki Committee of Asaf-Harofeh Medical Center.

Data analysis

Descriptive statistics were used for most of the analysis. The correlation between categorical variables was computed using Spearman's correlation formula. Statistical processing was performed using SPSS software.

RESULTS

The majority of participants ranged in age from 44 to 66 years old. Additional demographic characteristics of the sample are presented in Table I. The mobility of this group is very limited (e.g. approximately three-quarters use assistive devices for walking; approximately two-thirds use wheelchairs and approximately one-quarter is wheelchair-bound). In addition, the majority (over 85%) reported "poor" or "moderate" perception of general health and general daily living activities (Table II). Nearly half were not satisfied with their health status, functional ability or mobility. The most frequently reported co-morbid medical conditions of this group were back pain (70.3%); hypertension (46.5%); diabetes (17.8%); and cardiac disease (12.9%). However, the majority were satisfied with their personal relationships, occupational status, and general QoL. The mean scores of the SF-12 physical and mental components were 32.9 (standard deviation (SD) 9.2) (range 10–53) and 50.3 (SD 11.9) (range 19–70), respectively. The correlation coefficients of the physical and mental components and satisfaction with QoL, personal relationships, and occupational status were 0.61 and 0.36; 0.45 and 0.23; and 0.50 and 0.28, respectively.

The majority of participants recognized the potential of most of the proposed activities to improve their QoL "to a large/very large" extent. These activities included the categories of health-related knowledge enrichment and activities, remote communications, and social activities. The majority was interested in participating in group workshops, and approximately one-third were interested in individual therapy or counselling. No gender or age differences were observed for most of the above-mentioned variables.

DISCUSSION

The PS who participated in this study, are well-integrated into society, but present poor-to-moderate perception of health and mobility status as well as low QoL scores. They expressed a desire to partake in activities specifically developed for them. This group may represent a larger group of PS in Israel.

The participants included a slightly higher percentage of individuals who had established families and were employed compared with their counterparts in the general Jewish population in Israel (14). These findings are similar to the profiles of PS in Norway (2) and in Jerusalem (1). Thus, we may cautiously state that this group proves, once again (4), that PS who have the benefit of social and family support also have the potential to become an integral part of society.

Table I. *Sample characteristics (n = 101)*

Variable	Present study	Polio survivors who received compensations *n* = 1805*	General Jewish population†
Age, years, mean (SD)	57.9 (5)	54.2	
Age groups, %			
40–49 years	3.1	9.0	
50–59 years	70.2	82.4	
60–79 years	26.7	5.0	
44–64 years	90		
Gender, M, %	44.0	55.0	48.3
Education, years, mean (SD)	13.5 (3)		
Educational categories, %			
12>	14.1		≥12–77.1
12	31.3		>12–53.1
12<	55.6		
Family status (age 44–65 years), M/F, %			
Married	86.4/71.4	69.7	81.6/62.3[3]
Divorced	4.5/12.5		8.8/12.7[3]
Bachelor	6.8/8.9	11.4	4.6/1.9[3]
Widowed	2.3/7.2	18.9 (incl. divorced)	
Have children, %	89		
Work for living, % (*n* = 47)	47		48.2[1]
Retired, %	48		
Retired due to disability (% of retired)	62.2		
Live alone, %	13.4		13.1[2]
Volunteer, %	32.6		15.5[3]
Own and drive a car, %	96.0	96.1	
Use assistive devices for walking, %	75.0		
Use wheelchair, %			
Never	31.3		
Occasionally	26.3		
Most of the time	16.2		
All the time	26.3	27.5	

*Polio survivors' report – selected characteristics. National Insurance Institution, 2008. †Annual bulletin of statistics. Israel Central Bureau of Statistics, 2007. The Social Survey 2005.

[1]working out of 25–54 year age group. [2] of 55–64 age group. [3]Age group 44–65 years.

The health status perceptions and QoL of the PS were found to be poorer than that of the corresponding group of the general population. The first was reflected in a lower rating of overall health status, daily function and mobility, as well as in higher co-morbidity rates for several medical conditions (14). The last was reflected by a lower rate of satisfaction with interpersonal relationships, living conditions, and overall QoL (14). It was also demonstrated by a high correlation between the single item QoL and the SF-12 physical component, which was lower than the norm for the general US population (12) (there are no established norms for the Israeli population). Apparently, PS who experience chronic disability with severely impaired function are vulnerable to additional medical conditions that affect their QoL. These

Table II. *Perception of general health and function during last month* (n = 101)*

Variable	Present study (%)	General Jewish population by age group† (%)
General health status		
0–4	40.0	45–64 years: 24.8
5–7	45.2	65–74 years: 56.6
8–10	14.8	% reported "not so good" or "not good at all"‡
General daily activity		
0–4	53.7	45–64 years: 68.0
5–7	32.6	65–74 years: 74.0
8–10	13.7	% of those who had a problem and reported that it disturbs them in daily activities‡
Mobility		Difficulties indoors/outdoors
0–4	52.6	45–64 years 7.9 6.4
5–7	21.6	65–74 years 16.8 20.9
8–10	25.7	
Sleep quality		
0–4	44.3	
5–7	20.7	
8–10	35.0	

*Evaluated by 10-degree Likert Type scales, adapted from the "Case Record Form for Patients – University of Munich, WHO Collaboration Project". †Annual bulletin of statistics. Israel Central Bureau of Statistics (IBS), 2007. The Social Survey 2005. ‡The IBS categories can be considered similar to the "poor" and "moderate" categories at the present study. 0–4: poor, 5–7: moderate, 8–10: good/very good.

results stress the importance of proper medical care in order to address the broader scope of needs of PS. It is advised that experts establish team clinics will include medical services as well as other professionals, such as physiotherapists and social workers.

Are there ways to improve the QoL of this group? Similar to previous recommendations (6, 8) the PS expressed a clear desire to participate in enriching activities in specific polio-related areas, both by remote communications and by attending lectures and seminars. As previously reported (4, 10, 15), the desire to spend time with other PS reflects the participants' need for a support group to facilitate coping with additional health and social problems.

To what extent does this group represent a larger group of PS in Israel? Characteristics of the study population were compared with limited data on a group of 1800 PS who recently received benefits from the National Health Institute under the PS Compensation Law (16). These groups are similar in terms of frequency of wheelchair use, car ownership, and personal status profile. Therefore, the study population may represent a larger group of PS in Israel. However, our group has a relatively high educational level, and fewer retired subjects than that described before (2). The attendance at such a seminar might be related to the level of education; accordingly, the general population of PS in Israel is expected to be less educated and less involved in the labour market than our sample. On the other hand, subjects seeking treatment at a PP clinic might be in poorer health than others.

The main limitation of the study is the nature of the convenience sample. In addition, participants' responses were focused exclusively on the activities that had been pre-selected by the researchers. Despite the limitations, however, the findings may indicate a direction for action required by state agencies that provide services to PS individuals. There is a need for more PP clinics, and the existing clinics should be expanded into multiple-team clinics. Programmes to improve the QoL of PS should satisfy this group's need for information and social support (6). Further studies with additional medical data are necessary in order to confirm the present results.

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